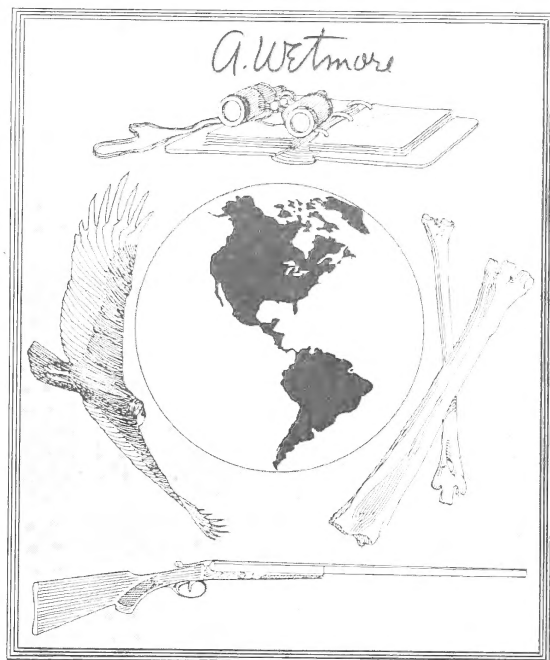


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OSTEOLOGIA AVIUM;

OR,

A SKETCH OF THE OSTEOLOGY OF BIRDS.

BY

Thomas Campbell
T. C. EYTON, ESQ., F.G.S., F.L.S.,

And Corresponding Member of Institute of Philadelphia.

==
PLATES.
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TO BE HAD OF MR. PRINCE, AT MR. J. GOULD'S, CHARLOTTE STREET,
BEDFORD SQUARE, LONDON.

PUBLISHED BY R. HOBSON, WELLINGTON, SALOP.

1867.





OSTEOLOGIA AVIUM.

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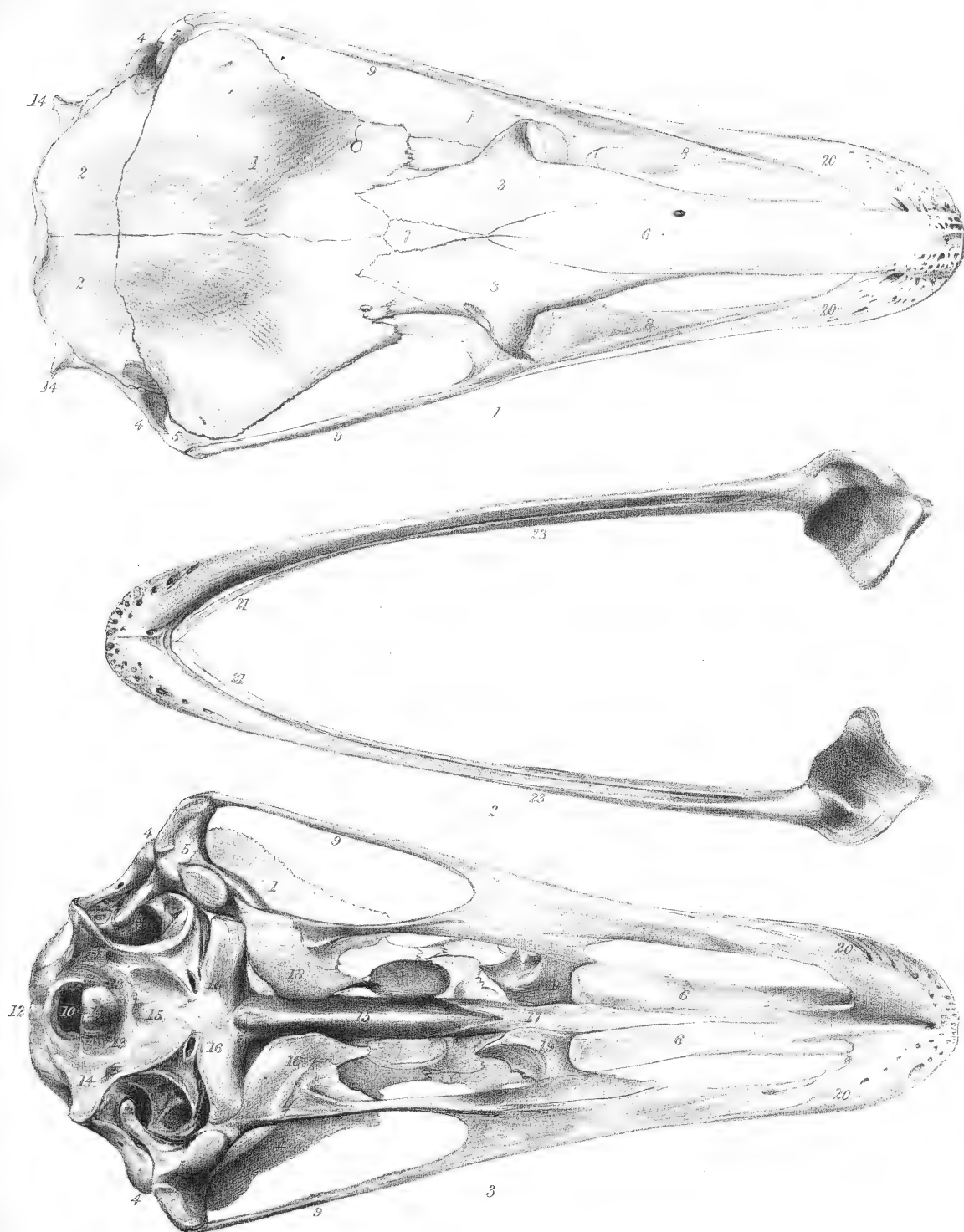
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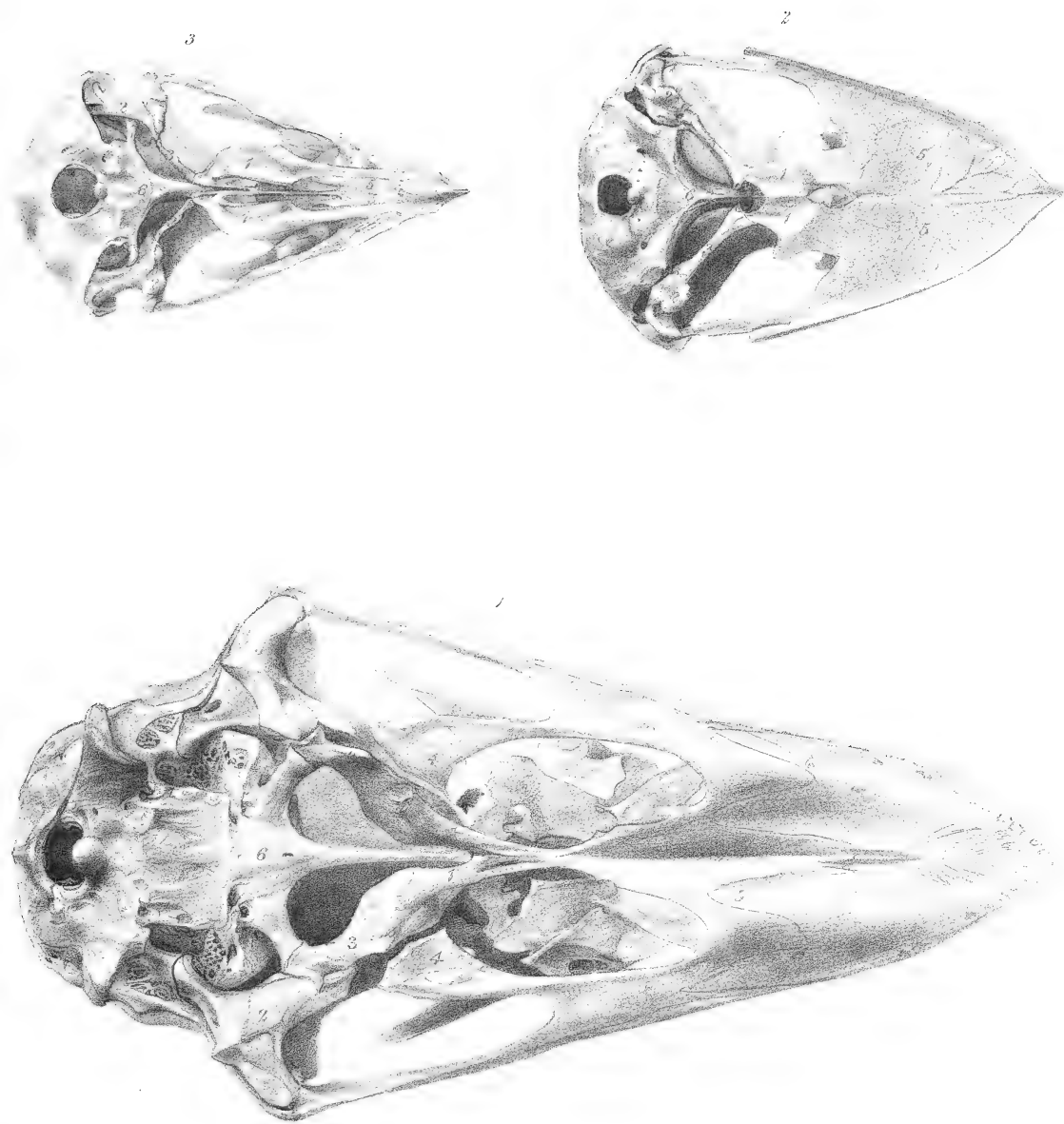
From Nature, or Zool. by L. Engelman

Dag & Son, Litho to the Queen.

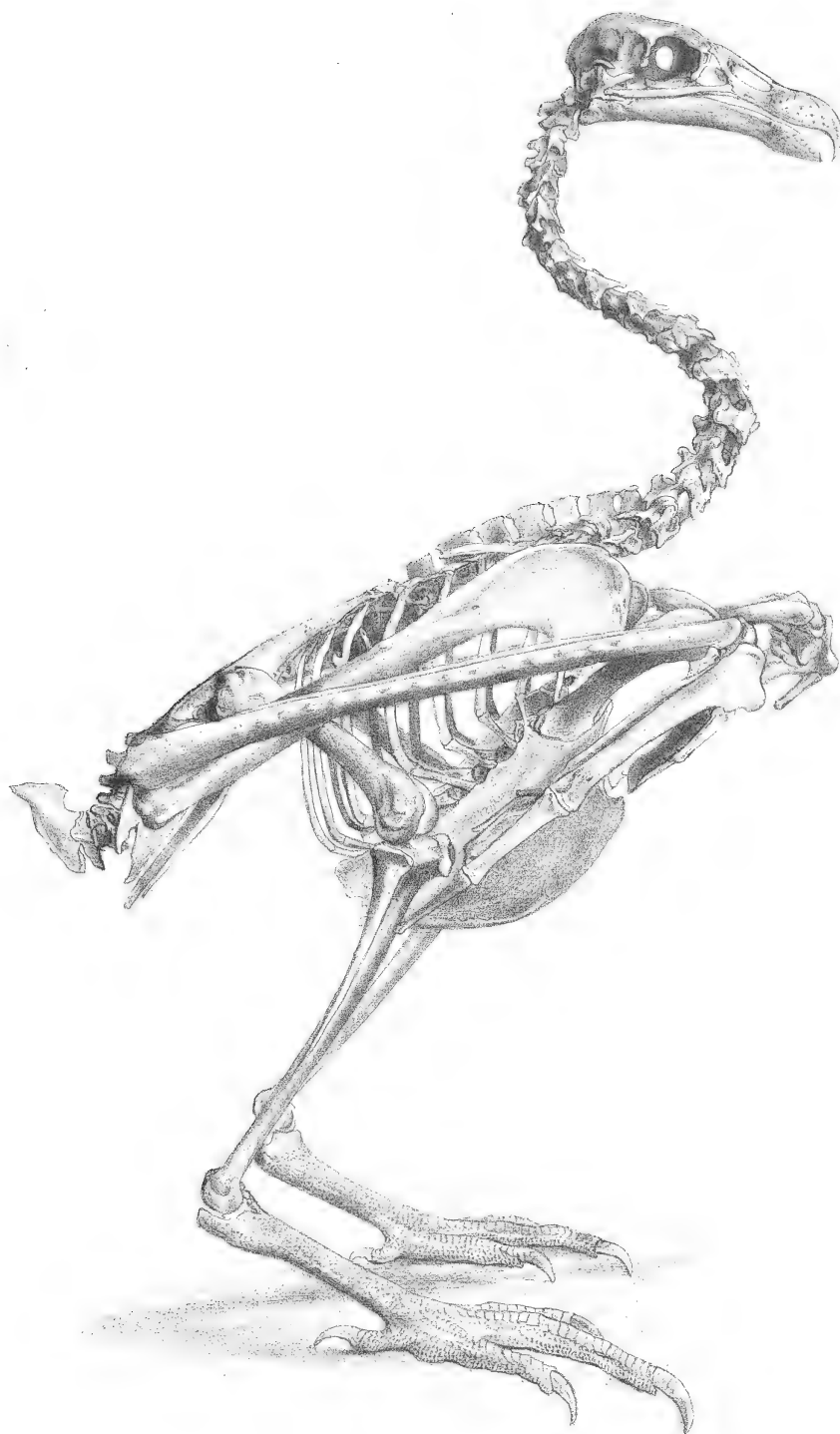
PANDION LEUCOCEPHALUS.







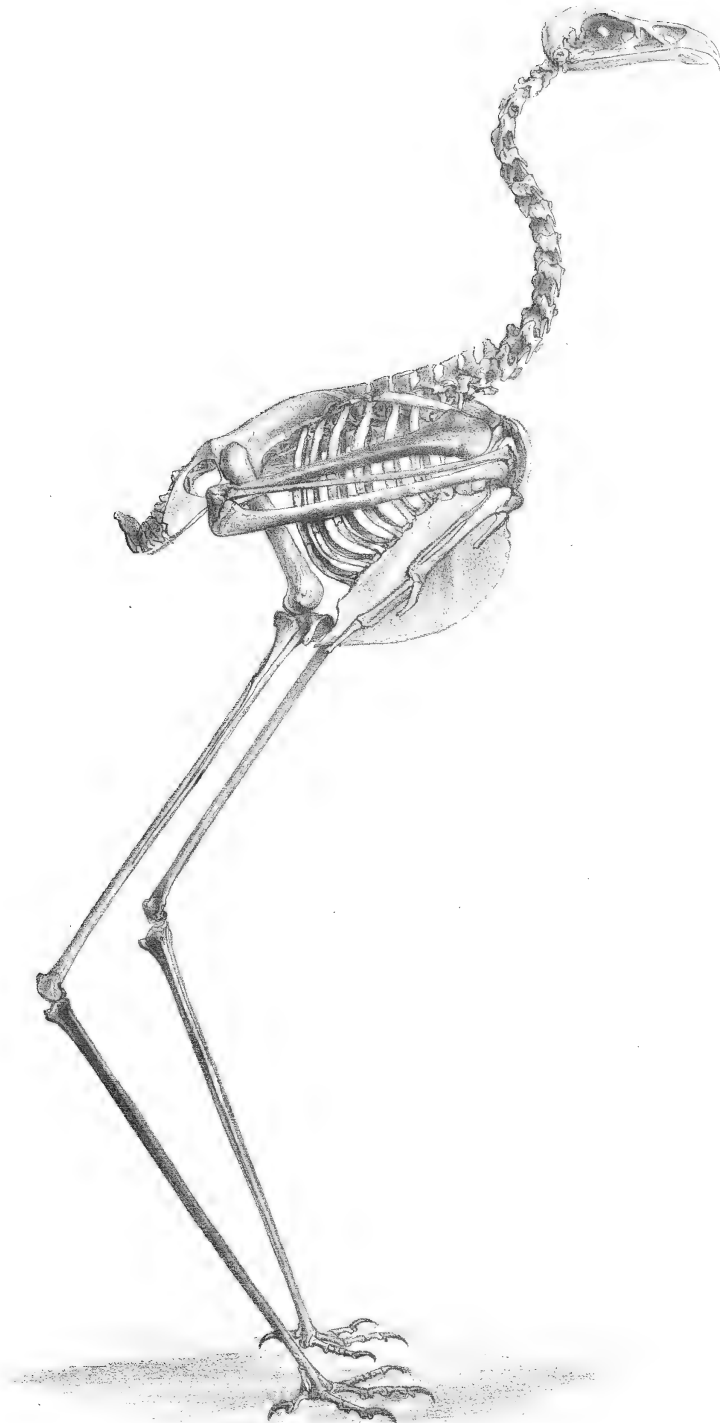
1. *Casuarus Emeu.*
2. *Podiceps Humeratus.*
3. *Falco Peregrinus.*



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SARCORAMPHUS GRYPHUS.

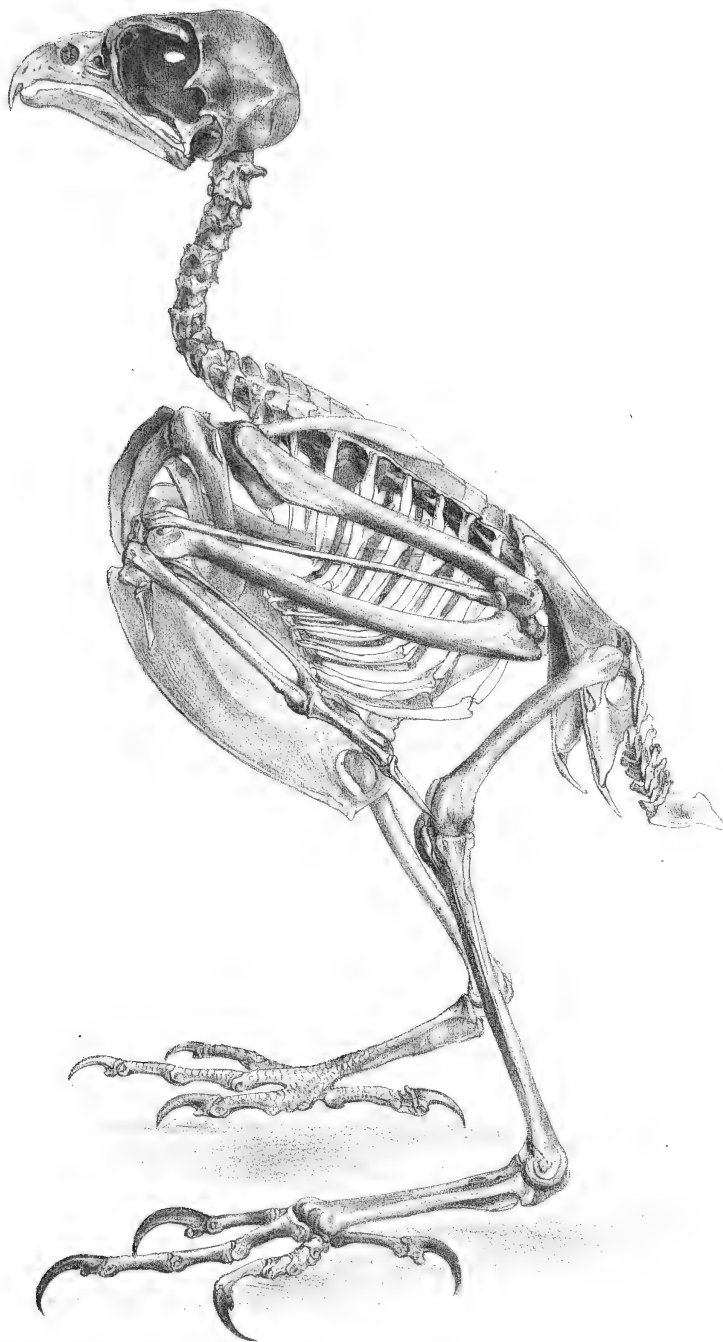
Day & Son, Lith^{rs} to the Queen.



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SERPENTARIUS REPTILIVORUS.

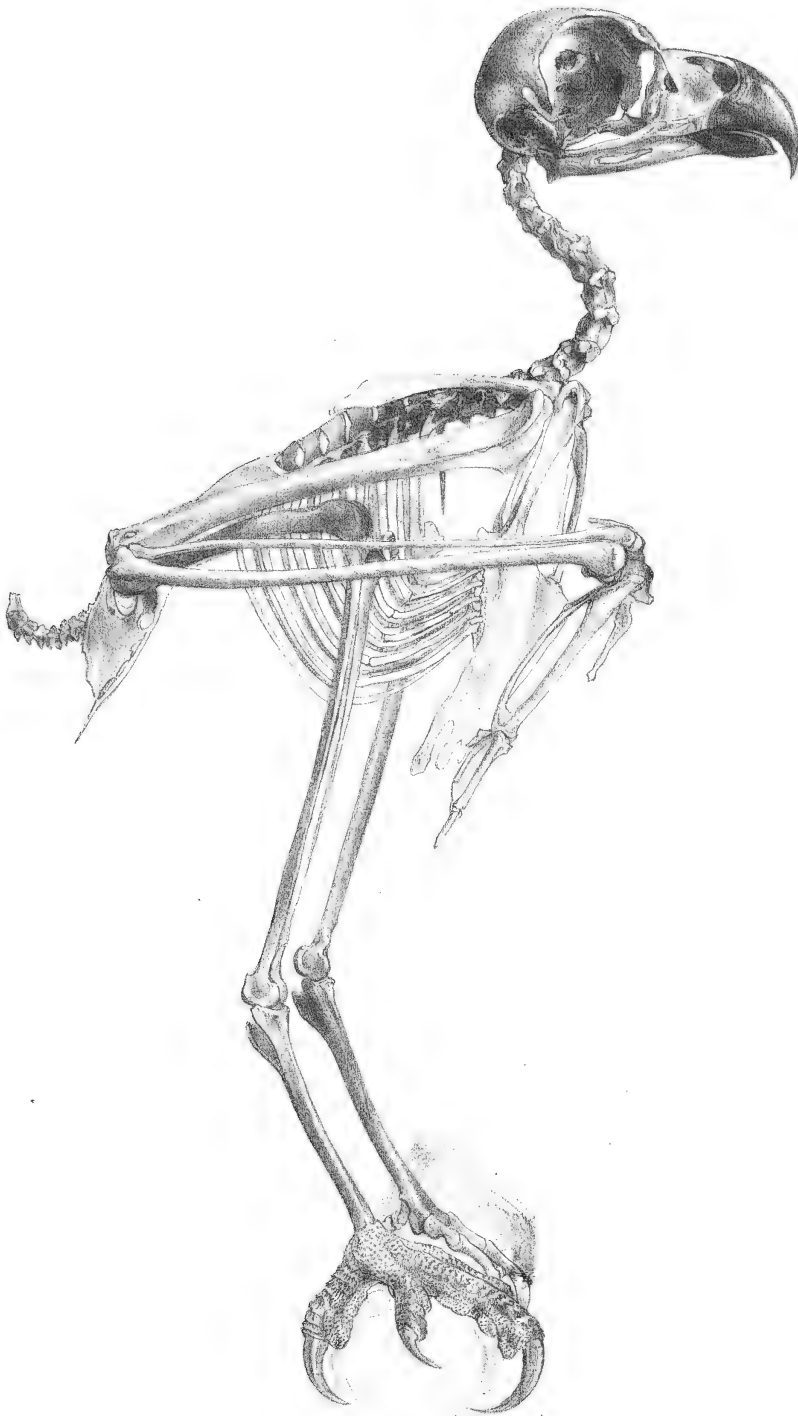
Lap & Son, Lith to the Queen.



From Nature on Zinc by J. Exleben.

Day & Son, Lithrs to The Queen.

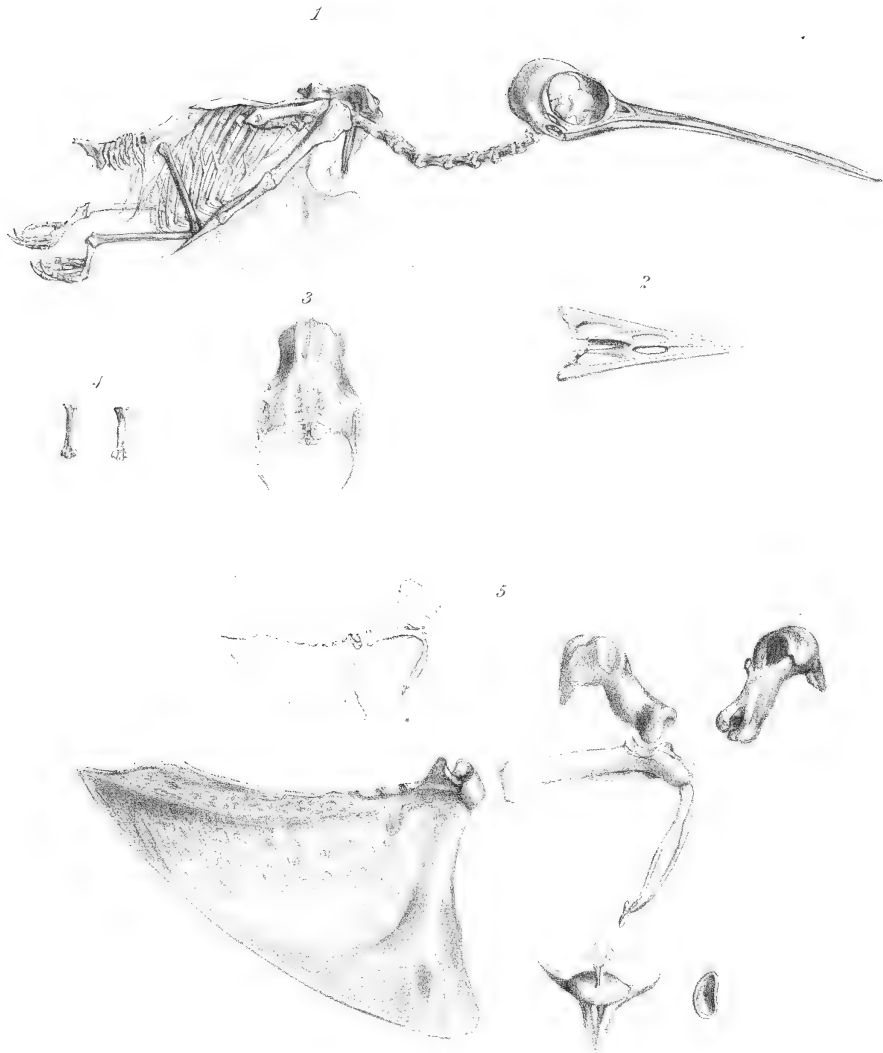
FALCO PEREGRINUS.



From Nature en Zinc by J. Erxleben.

Day & Son, Lith^{rs} to The Queen.

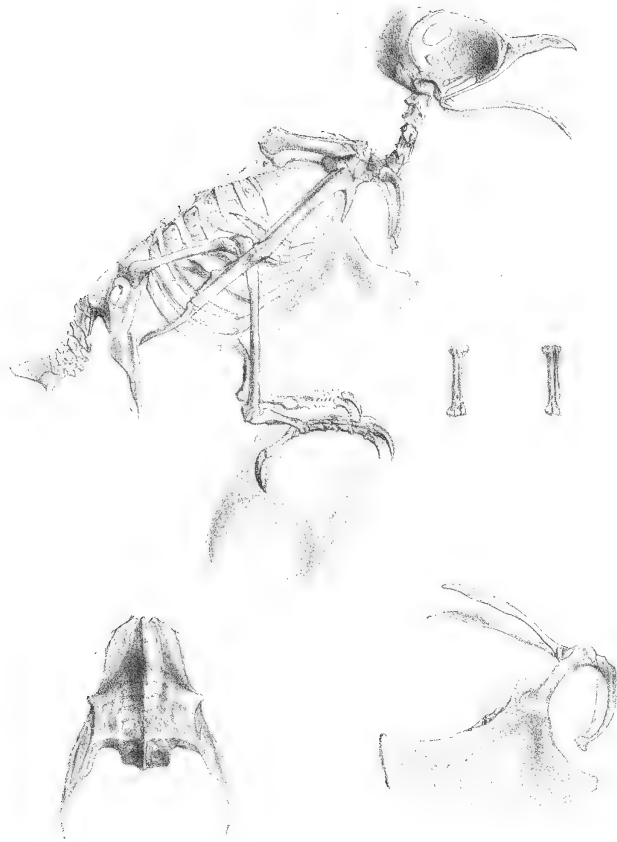
KETUPA JAVANENSIS .



From *Nature on Time* by J. Erxleben.

Day & Son, Lith^{rs} to the Queen.

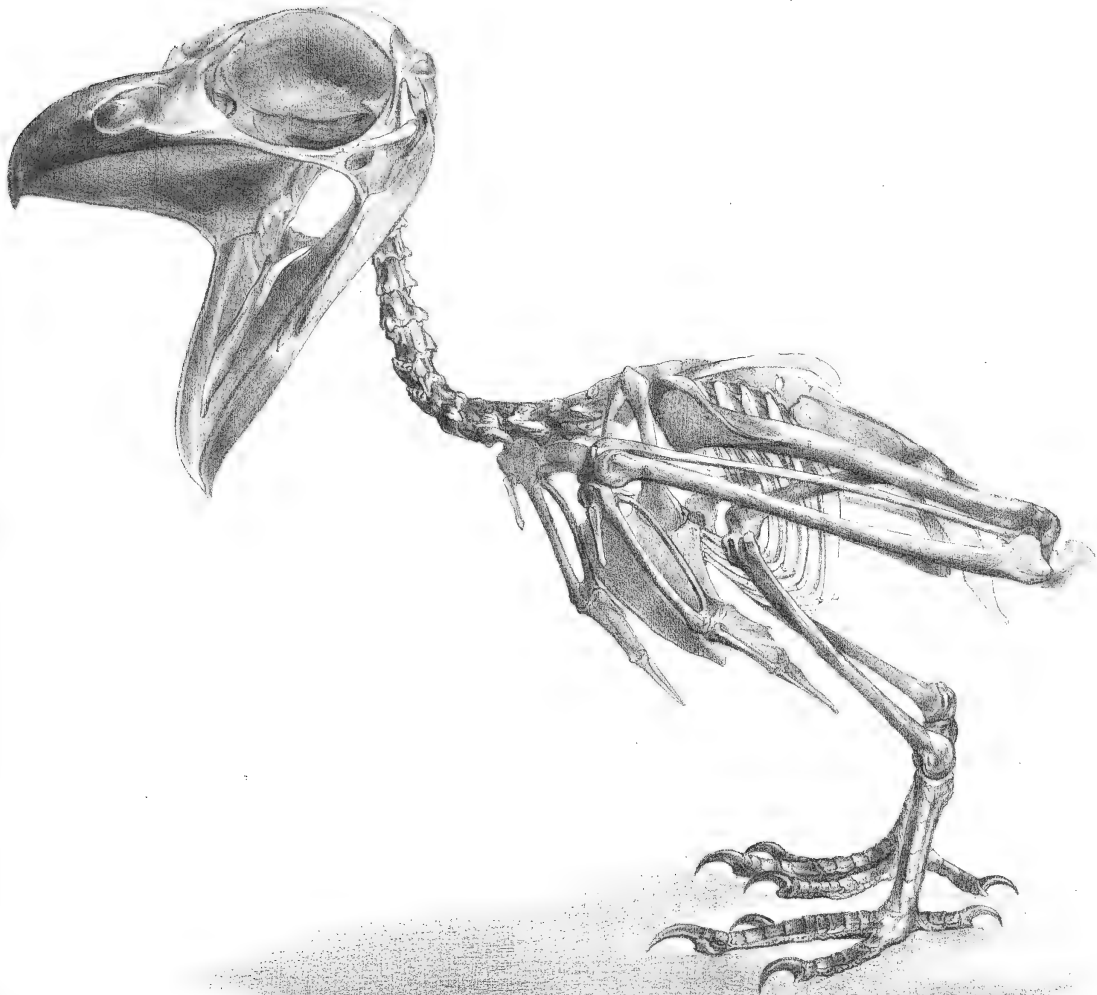
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From Nature on Zinc by J. Erxleben.

Day & Son, Lith'rs to the Queen.

CYPSELUS APUS.



From Nature on Zinc by J. E. Leiden.

Described by Sir John Gould.

PODARGUS HUMERALIS.



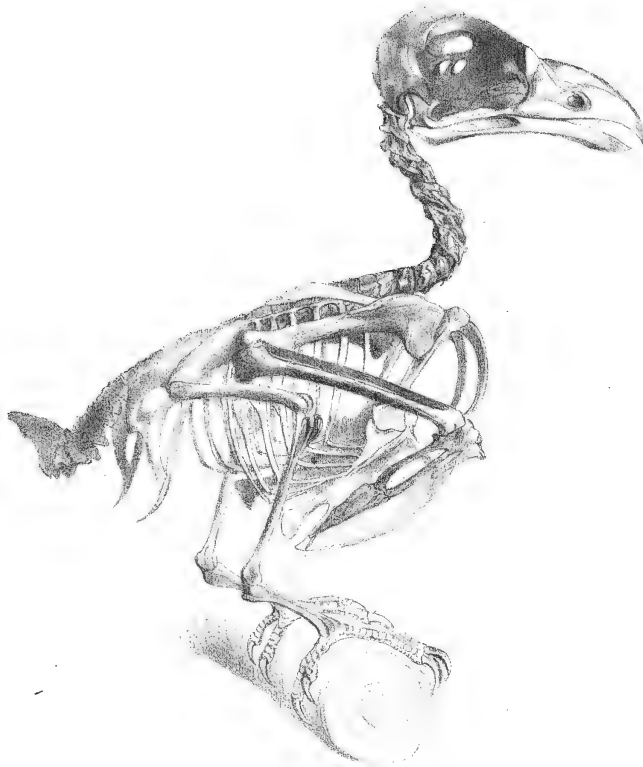
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CORACIAS INDICA.



EURYSTOMUS ORIENTALIS.



TROGON MELANOCEPHALUS.

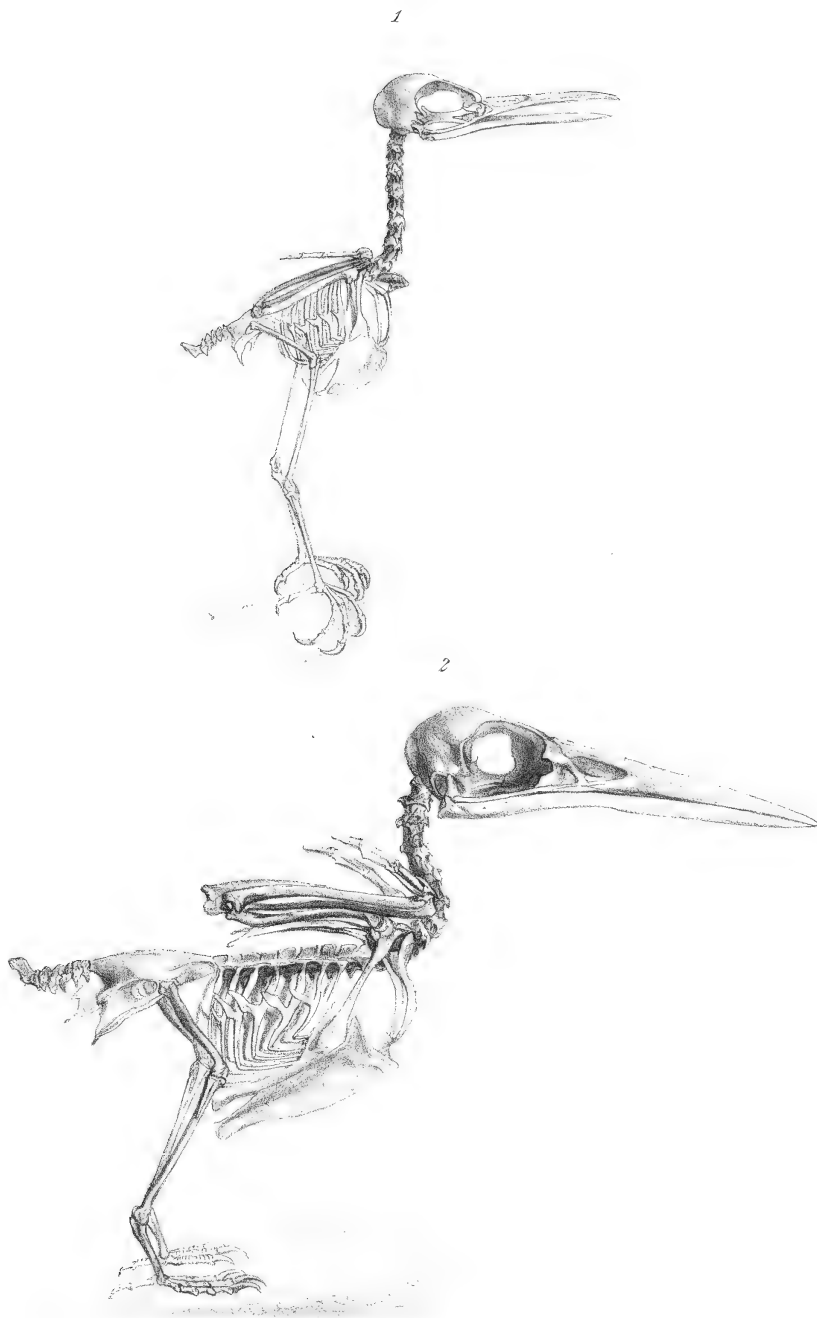
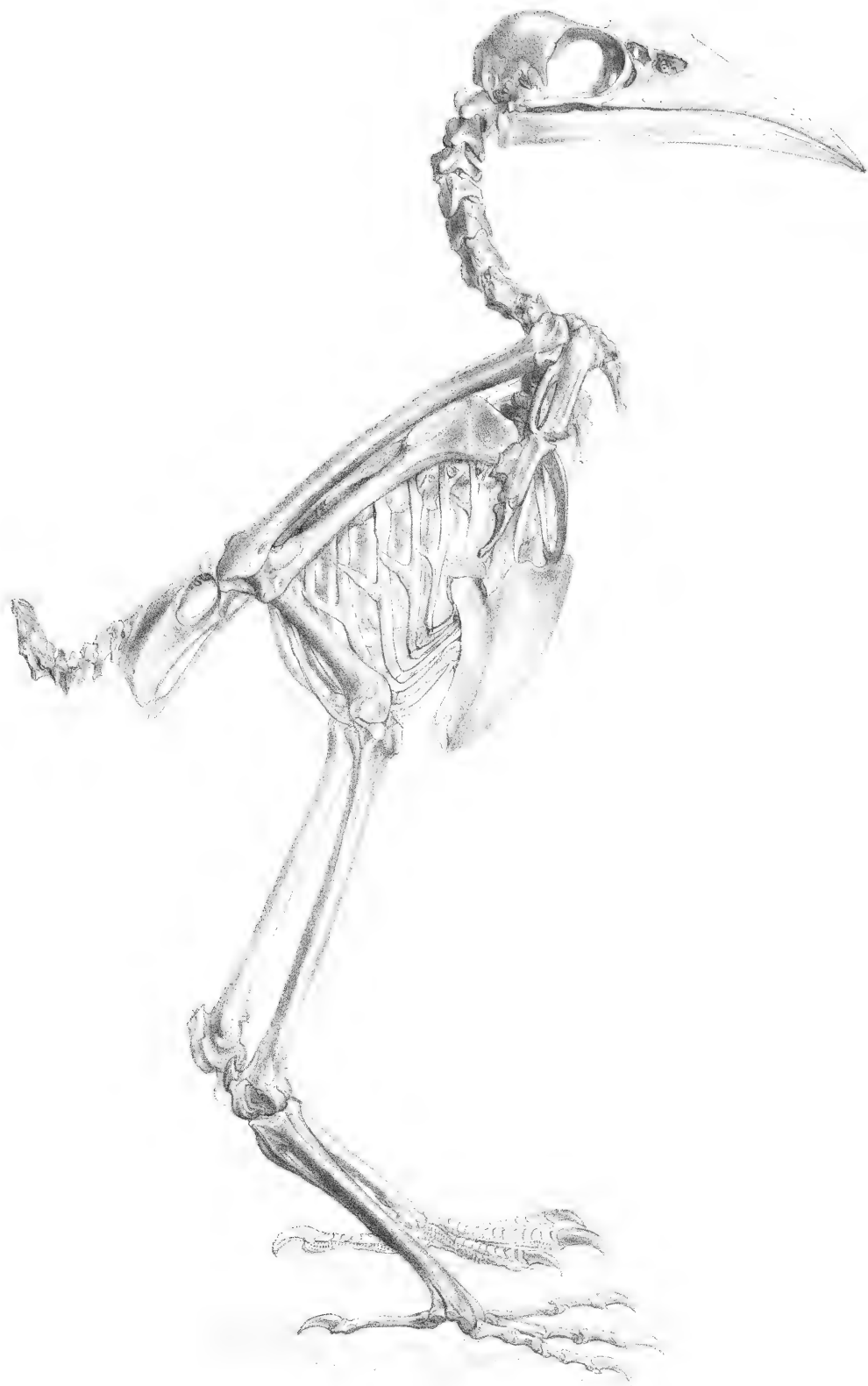


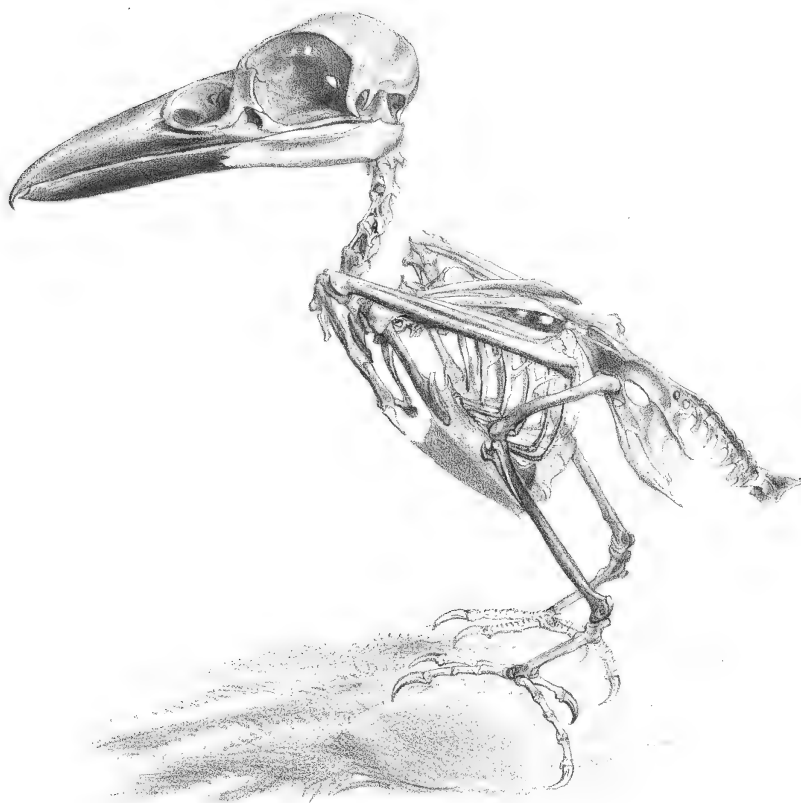
Fig. 1. *Todus Viridis*. — Fig. 2. *Alcedo Ispida*.



From Nature on Zinc by J. Exxelton.

Day & Son, Lith^{rs} to the Queen.

BUCEROS ABYSSINICUS.



From Nature on Zinc by J. E. H. Allen.

Drawn & Engraved by J. E. H. Allen.

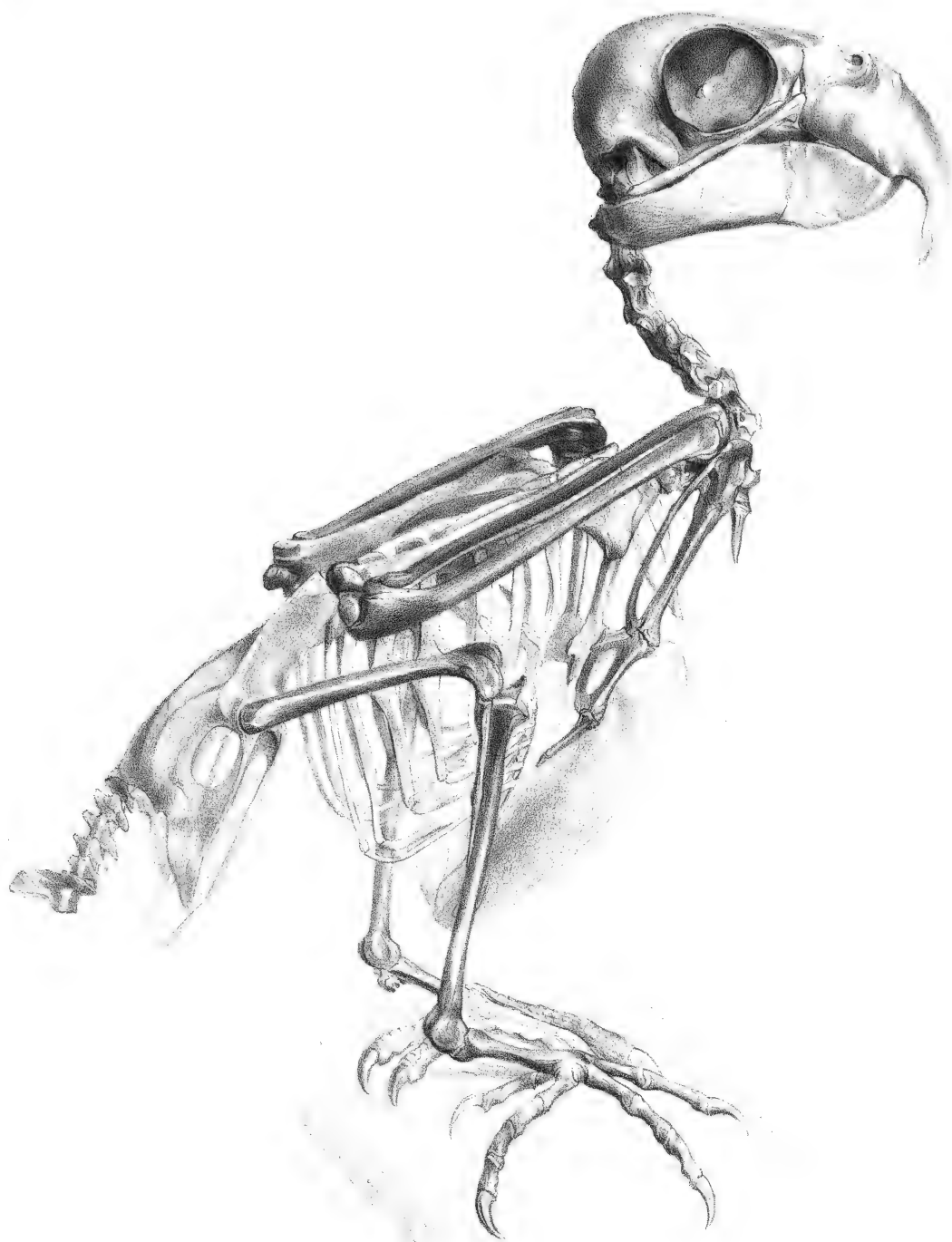
CAPITO SWAINSONII.



From Nature on Zinc by J. Erxleben.

David Cox, sketch'd to the Queen.

EURLAIMUS SUMATRANUS.



Natural size by J. Brachman.

David Cox, Lith. to the Queen.

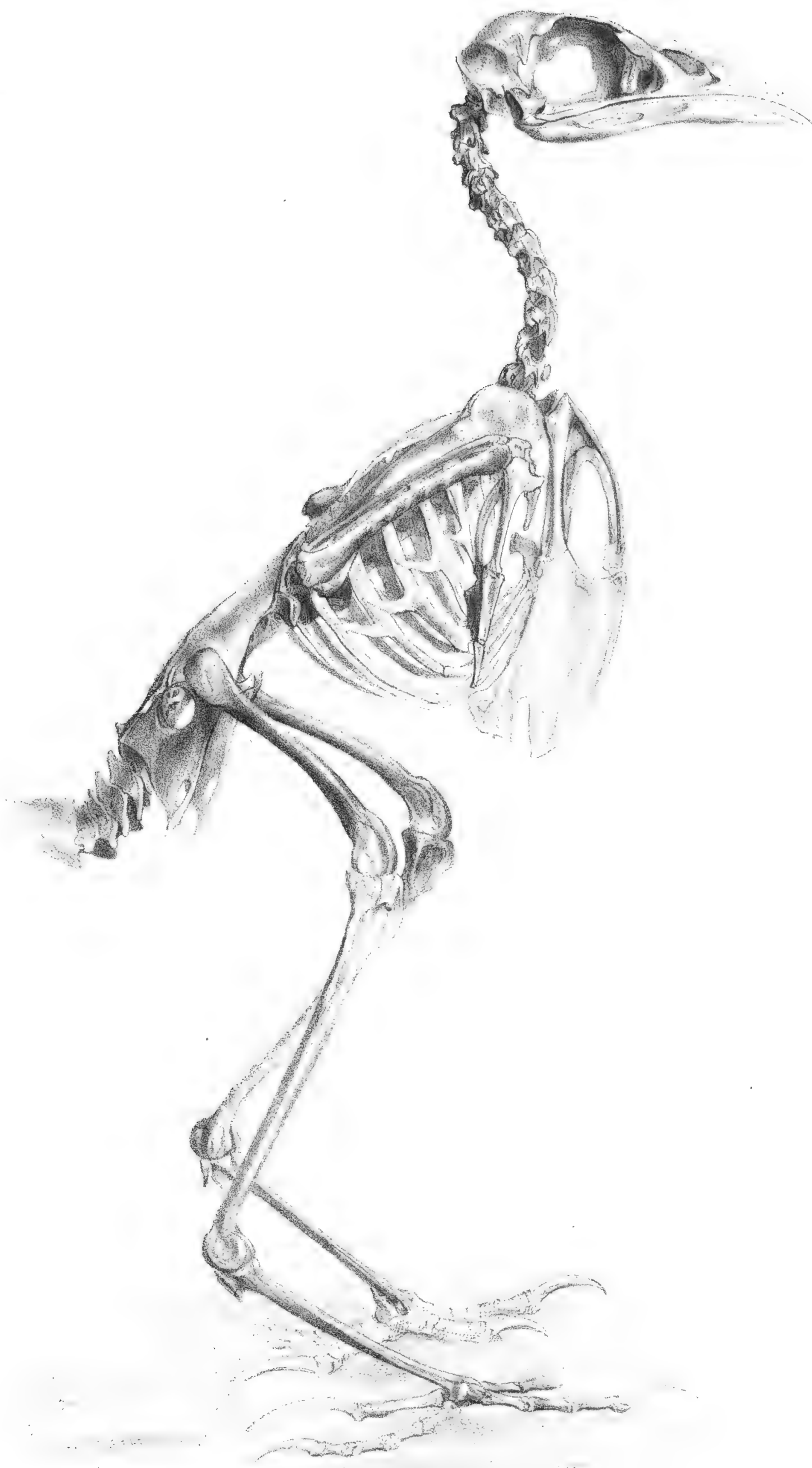
CHRYBOTIS BRAZILIENSIS.



From Nature on Zinc by J. E. H. Leach.

Deposited by the Queen.

GEVINUS DIMIDIATUS.





From Nature on Bone by J. Bräiden.

Day & Son Lith^{rs} to the Queen.

TURACUS GIGAS.



From Nature on Zinc by J. Erxleben.

Day & Son Lith^{rs} to the Queen.

PTEROGLOSSUS BAILLONII.

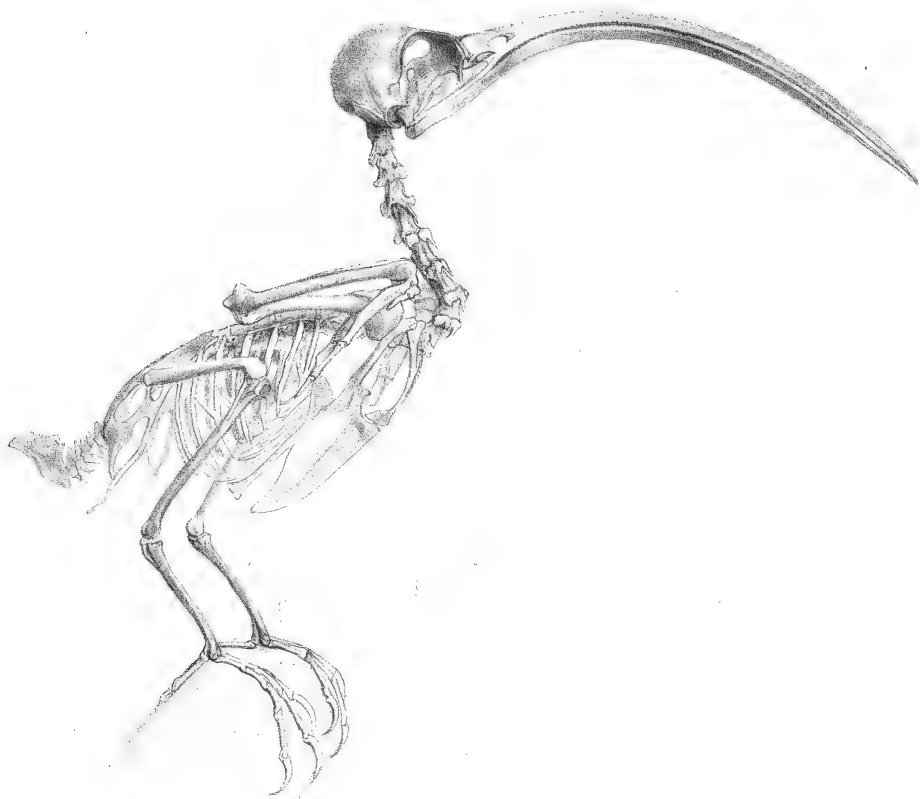


From Nature on Zinc by J. Strehlen

Eng. & Son Lith^{rs} to the Queen

CUCULUS GLANDARIUS.





From Nature on Zinc by J. Erxleben.

Day & Son, Lith^{rs} to the Queen.

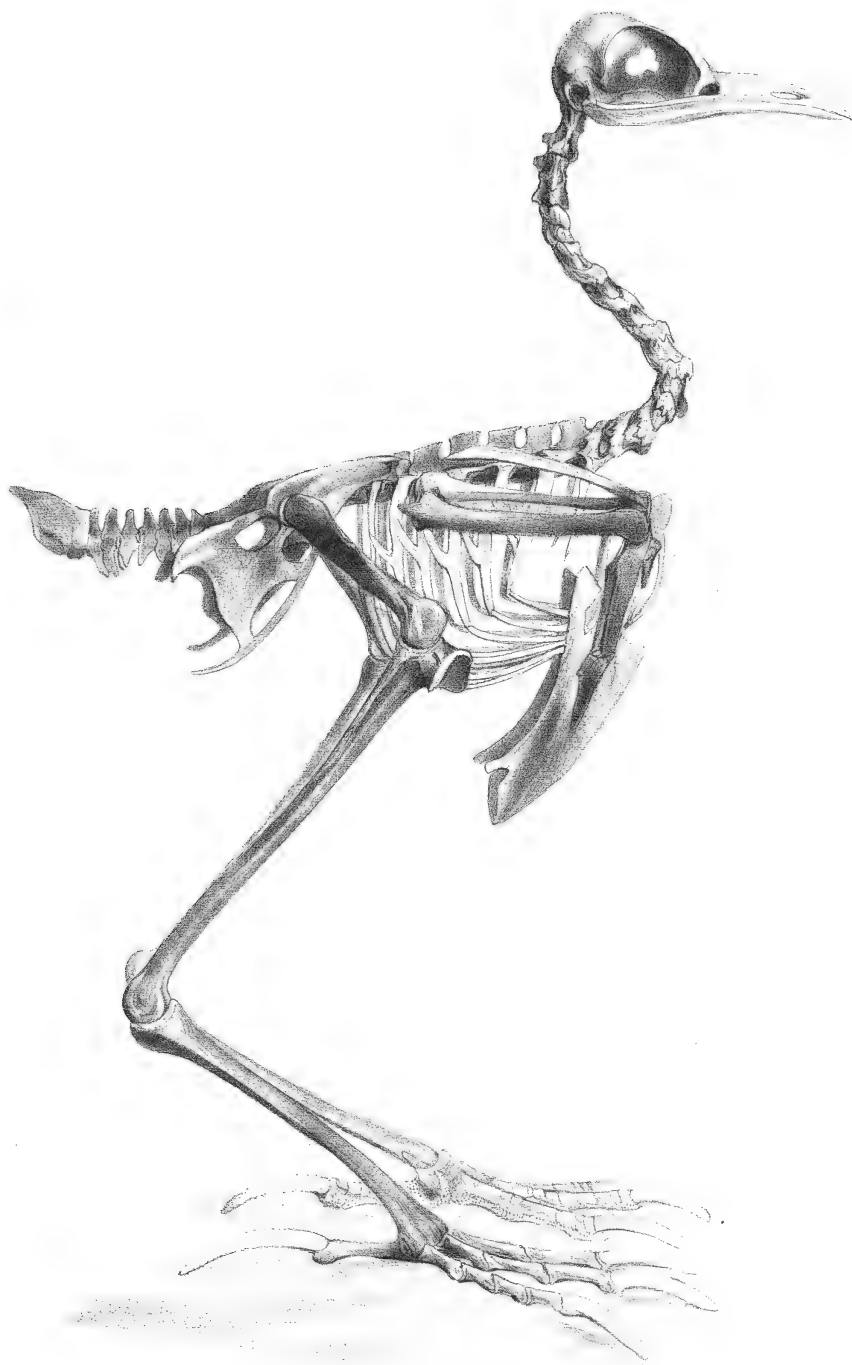
ZIPHOREYNCHUS TROCHILIROSTRIS.



From Nature on Zinc by J. E. S. S. S.

Day & Son, Litho^{rs} for the Queen.

ANTHOCLERA LEWINII.



1



2



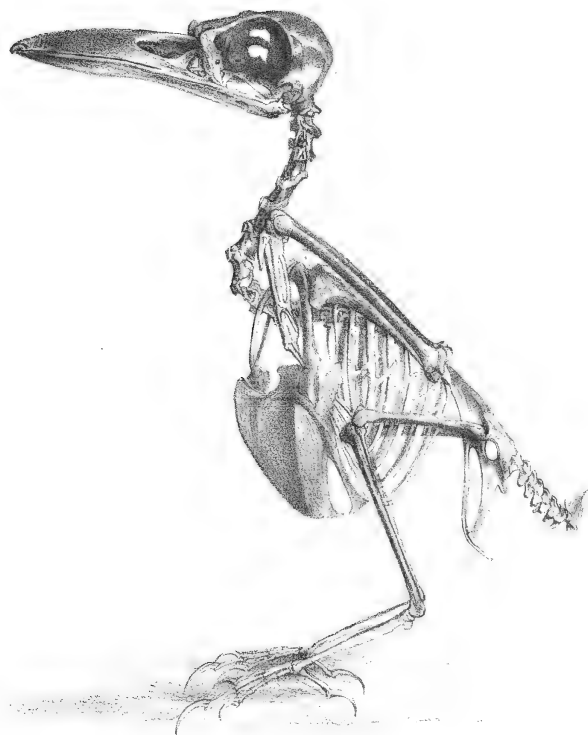
From Nature on Zueby J. Erxleben

Day & Son. 17th St. to The Queen.

1. SYLVIA HIPPOLAIS. 2. PARTULA BRAZILIANA.



2



From Nature on Zinc by J. Eichel en.

Day & Son Lith^{rs} to Th. Queen.

1. TCHITREA MELANOPYGA. — 2. TYTYRA INQUISITOR.



From Nature on Zinc by J. Fr. Schöber.

Day & Son, Lithrs to The Queen.

TURDUS CHOKI.



From Nature on Zinc by J. Erxleben.

Tay & Son Lith'rs to the Queen

1. PLATYRHYNCHUS CANCROMUS. — 2. HIRUNDO RIPARIA .



From Nature on Zinc by J. E. Leiden

Day & Son, Lith^{rs} to The Queen.

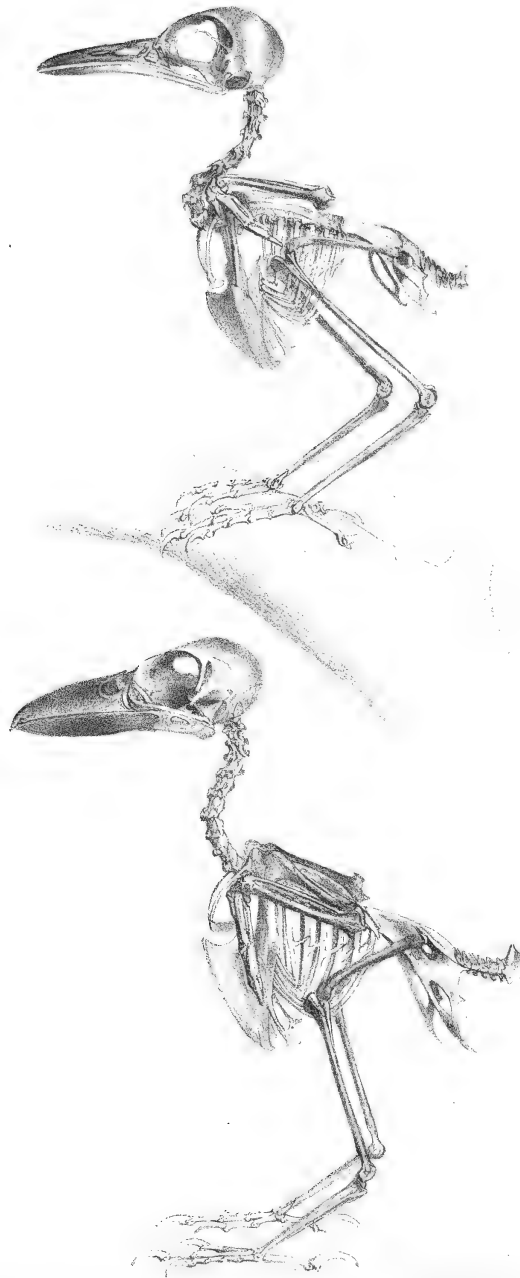
NEOMORPHA GOULDII



From Nature on Zinc by J. Erxleben.

Day & Son Lith^{rs} to The Queen

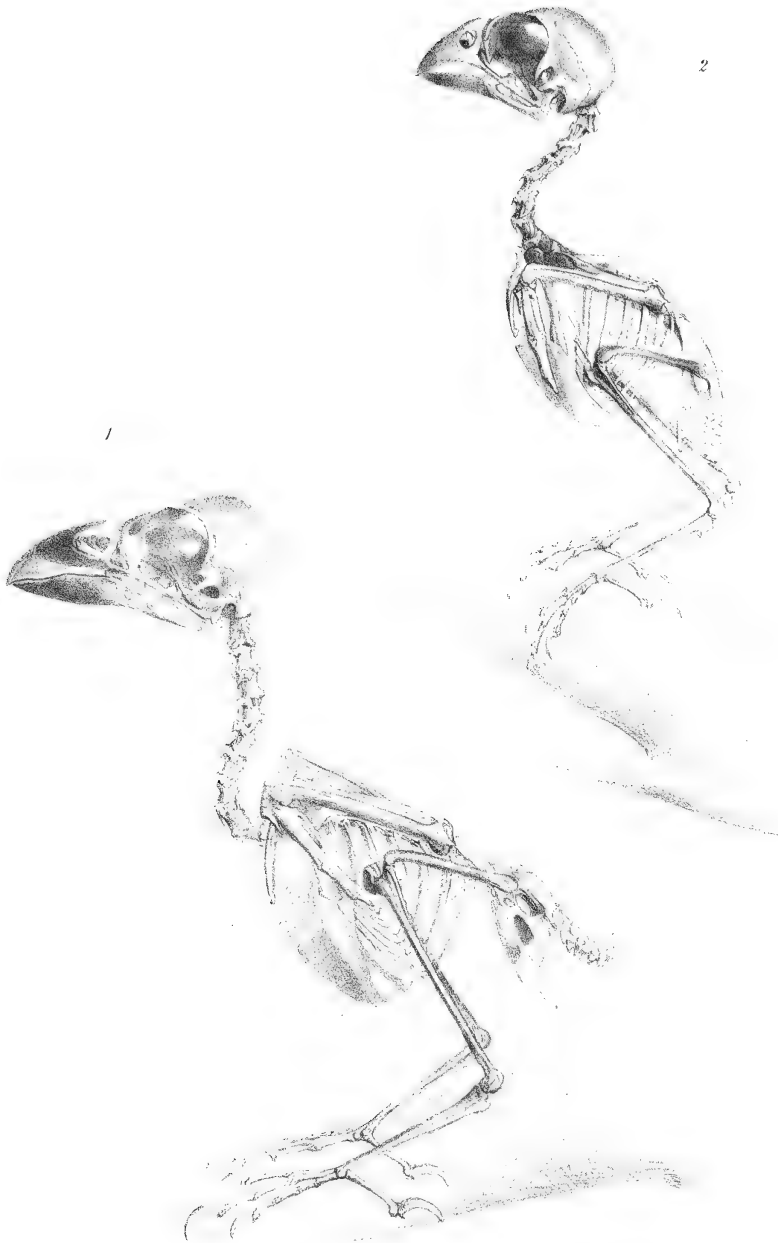
CASSICUS BIFASCIATUS .



From Nature on Zinc by J. E. Leiden.

Day & Son, Lith^{rs} to the Queen

1. DRYMOPHILA LORICATA. 2. LANIUS COLLURIO.



From Nature on Wax by J. E. Deben

By G. S. Smith to the Green

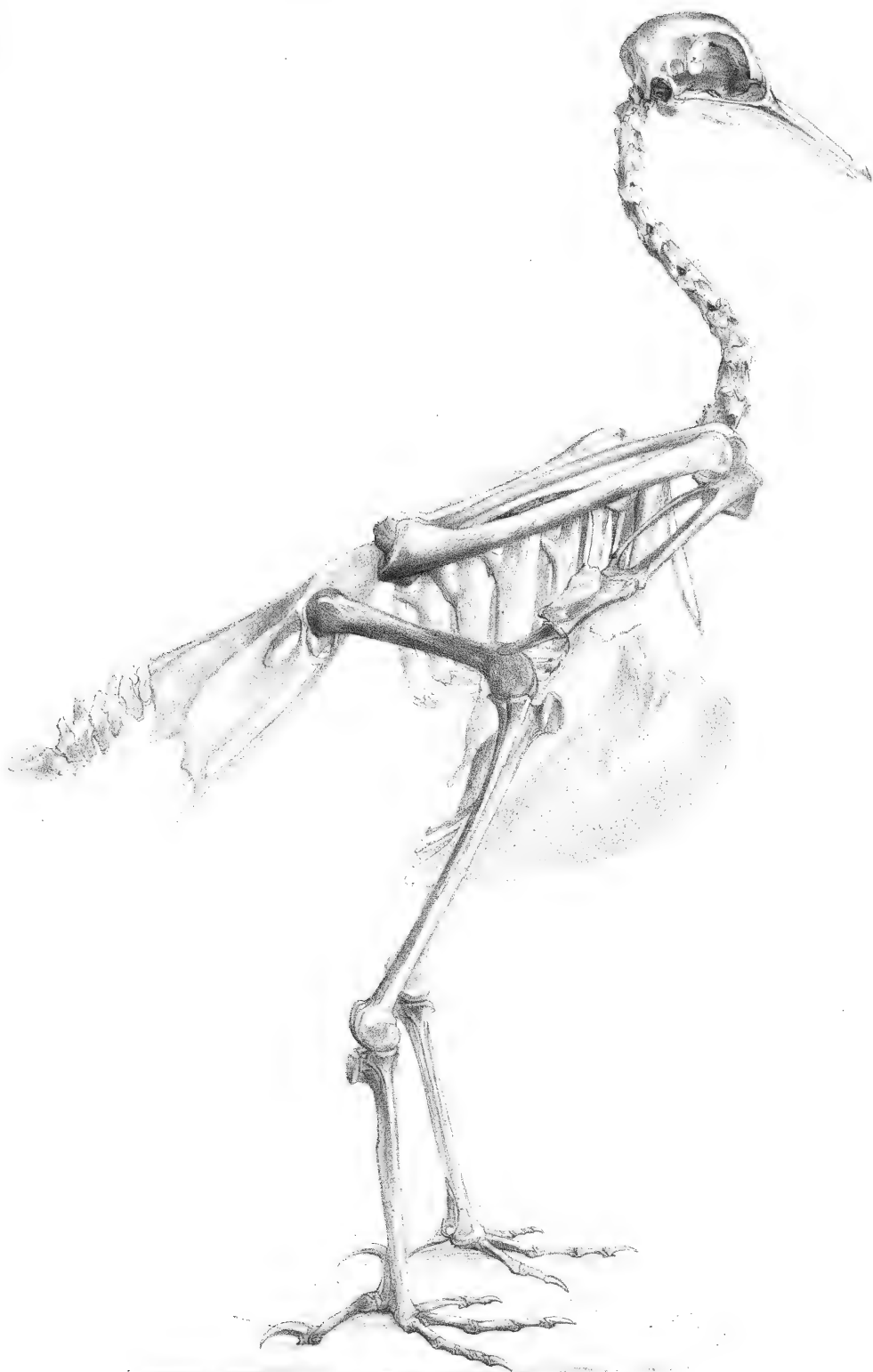
1. SALTATOR MAGNUS. 2. SPERMOPHAGA HAEMATINA.



From Nature on Zinc by J. Erxleben.

Drawn & Sculpted by the Queen.

CYPSIRRHINA LEUCOPTERA.



From Nature in Line by J. Erxleben.

Drawn & Engraved by J. G. Smith for the Queen.

GOURA CORONATA.



From Nature on bone by J. E. Richardson

Drawn & Engraved by J. E. Richardson

TETRAO UROGALLUS.



From Nature on Zinc by J. E. H. Sclater

Day & Son, Lithrs to the Queen.

CRAX GLOBICERA.



From Nature on Zinc by J. E. S. S. S.

Drawn & Engraved by J. S. S. to the Queen.

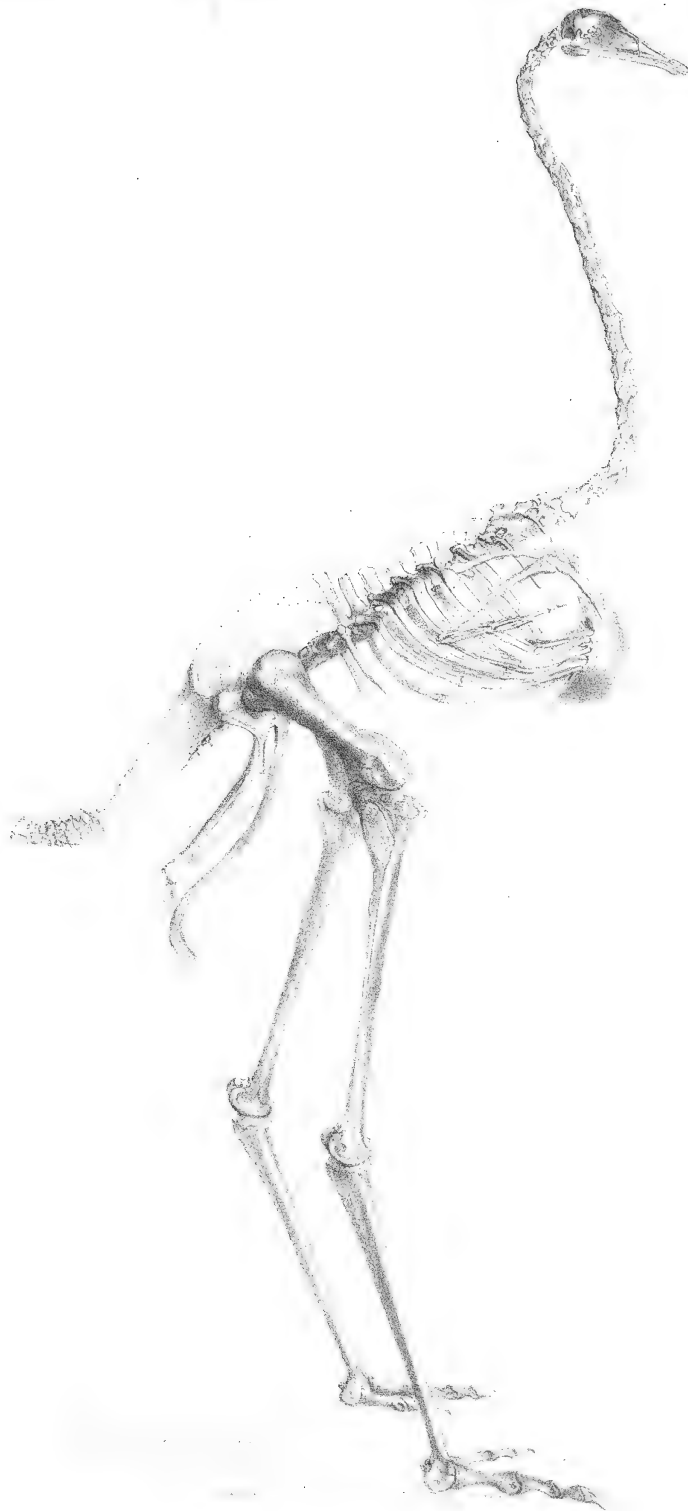
PHASIANUS NYCTHEMERUS.



From Nature on Zinc by J. E. Henslow

Drawn & Engraved by J. G. Lillie to the Queen

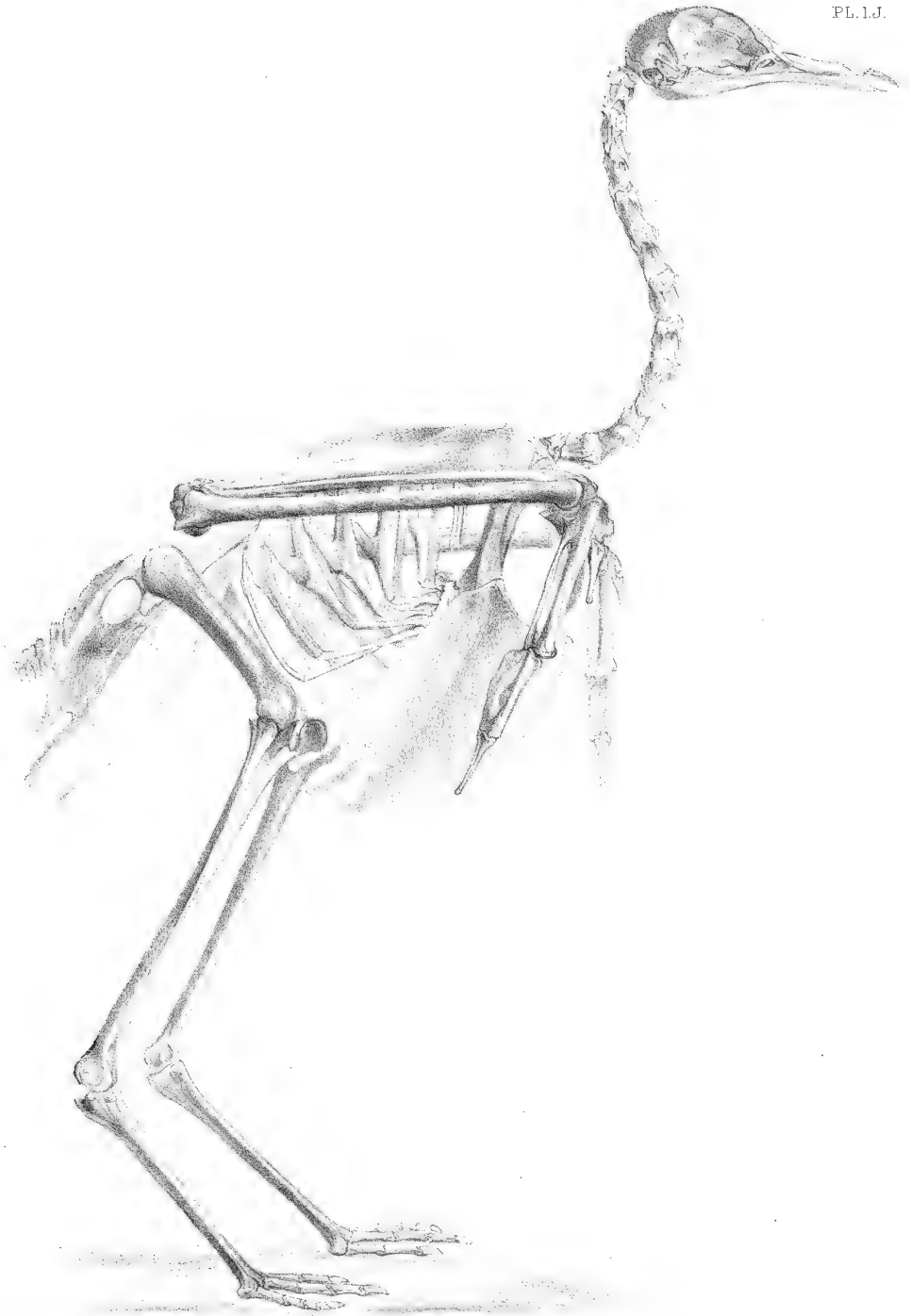
OREOPHASIS DERBYANUS.



From Nature on Zinc by J. E. de la Beche

Day & Son, Litho to the Queen

STRUTHIO CAMELUS



From Nature on Zinc by J. Forster.

Day & Son, Lith. to the Queen.

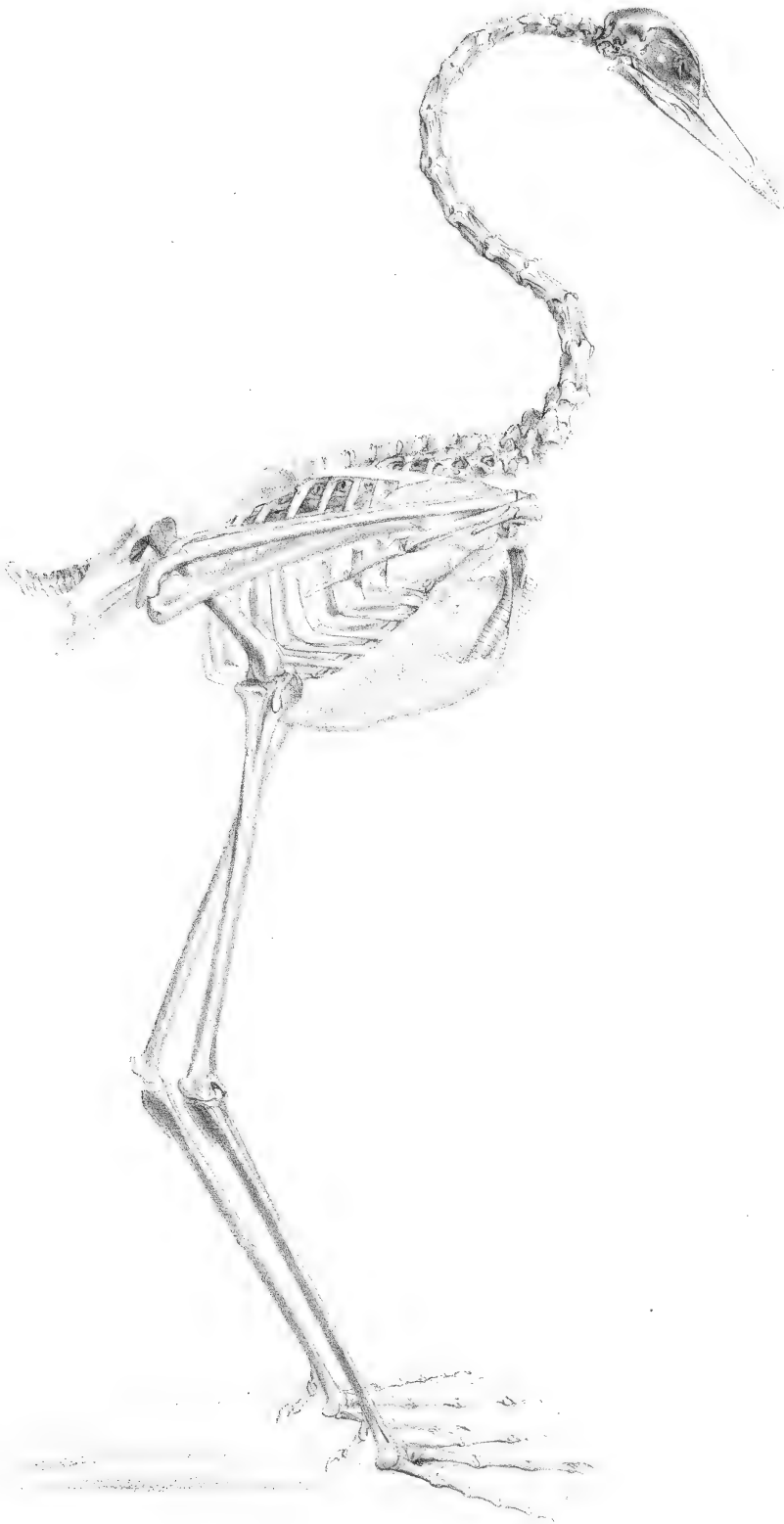
OTIS HOUBARA.



From Nature on Zinc by J. E. H. Allen

Day & Son, Litho & the Queen

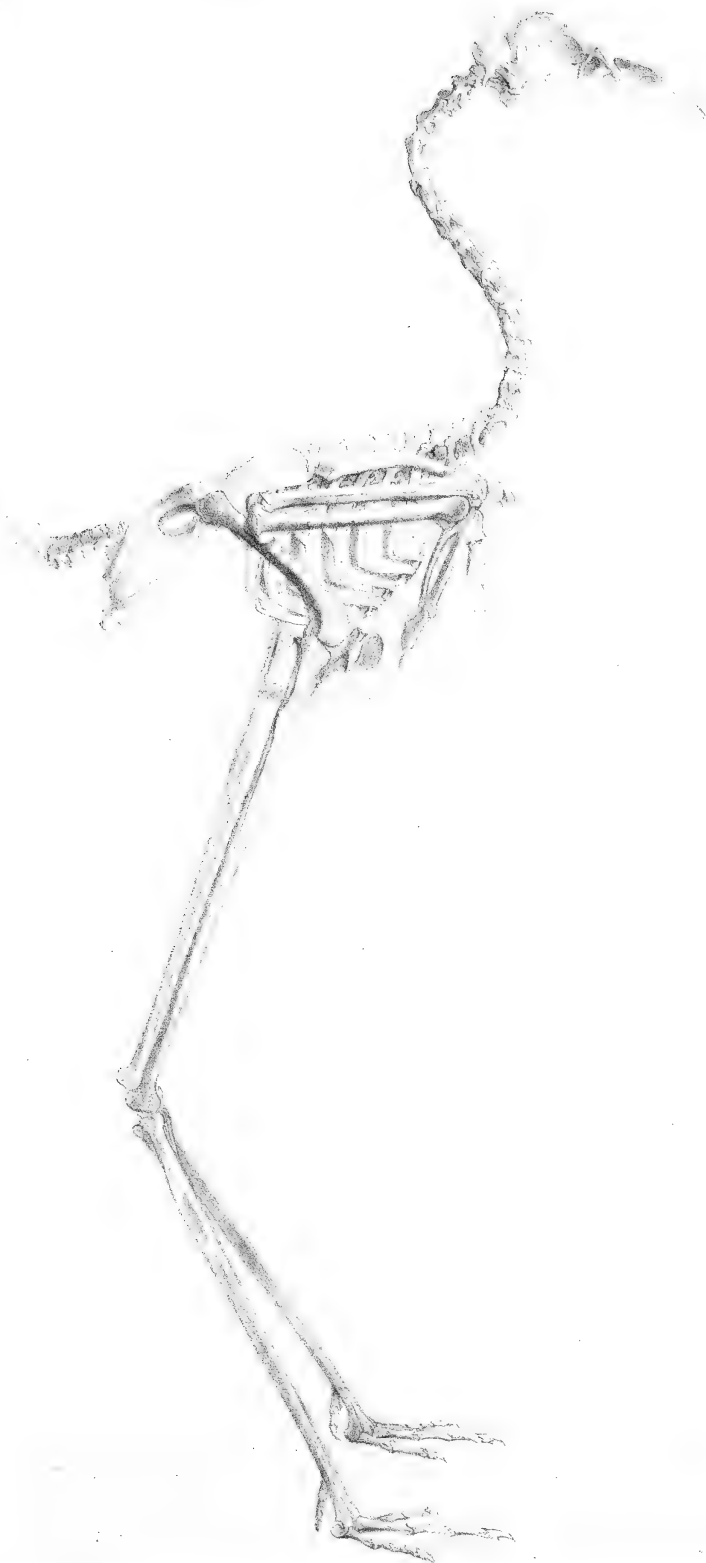
LEPTOPHILIUS ARGALA.



From Nature on Zinc by J. Exley

Drawn & Engraved by J. Exley

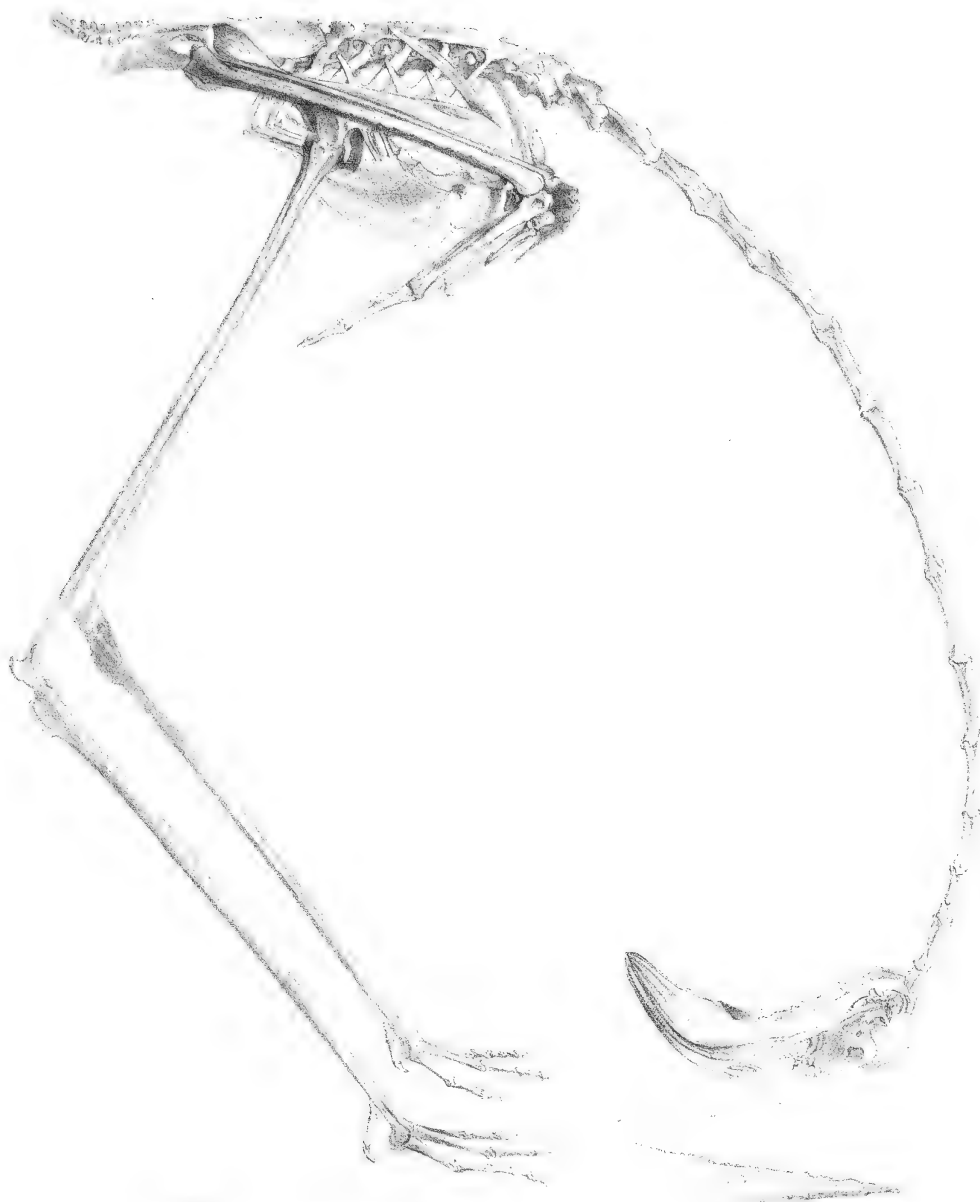
SCOPS VIRGO.



From Nature on Zinc by J. E. Leach.

Day & Son, Lith^{rs} to the Queen.

CARUANA CRISTATA

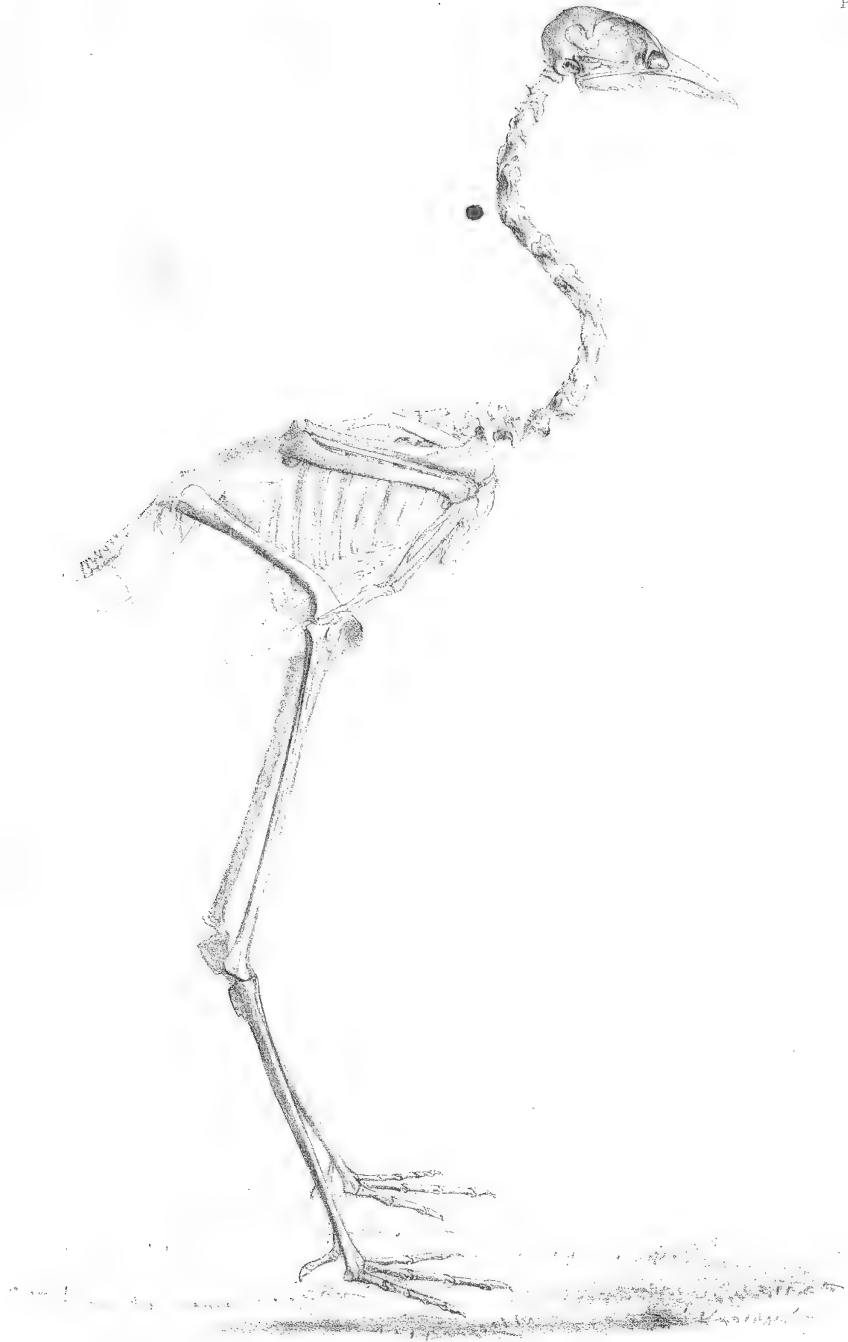


From Nature on Zinc by J. E. Leche.

Drawn by S. M. Lill to the Queen.

PHŒNICOPTERUS RUBER.





From Nature on Zinc by J. E. Leake

Drawn & Engraved by J. E. Leake

PSOPHIA VIRIDIS.

PL. 6K

Day & Son Lithrs to the Queen

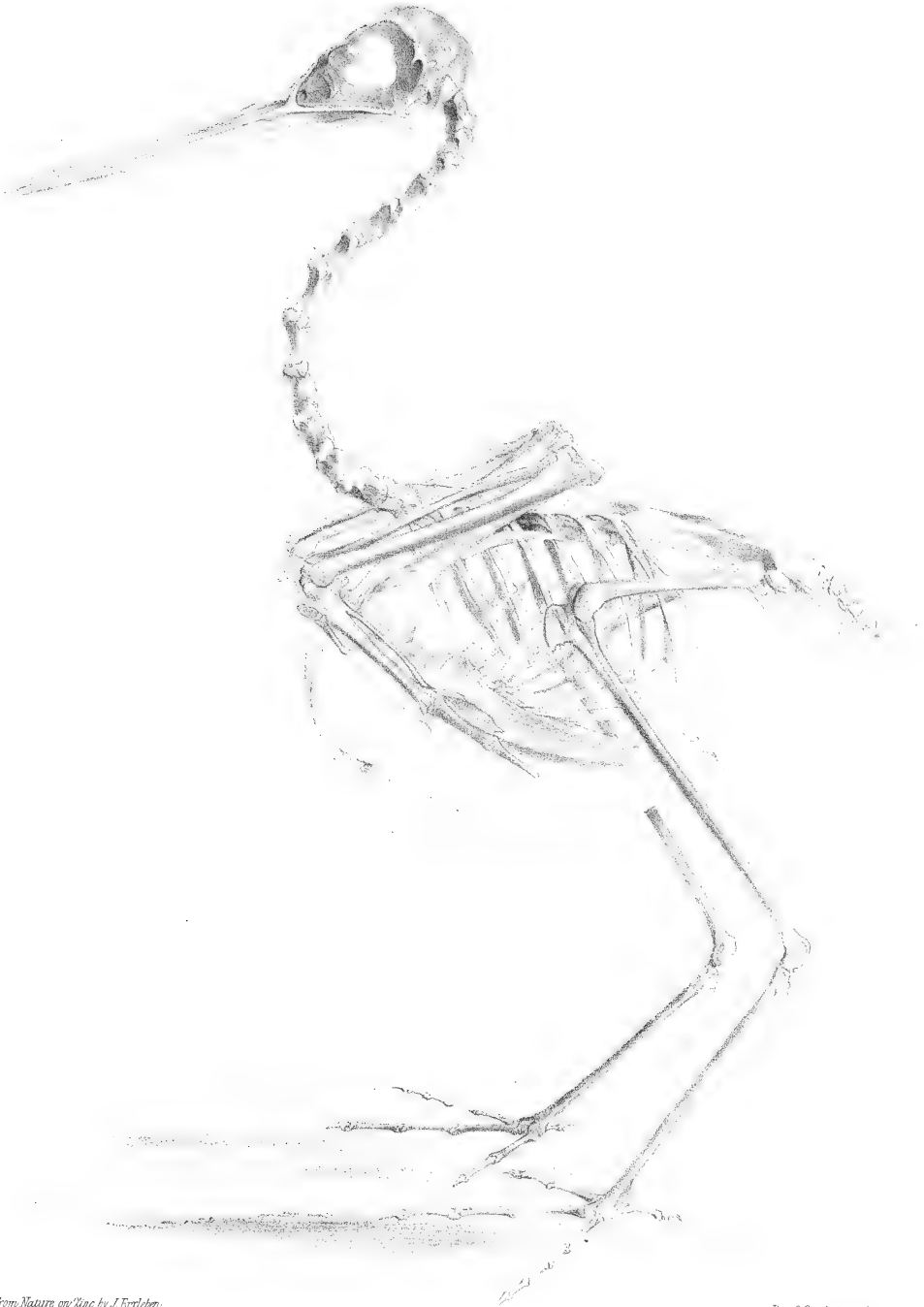
•



From Nature on Zinc by J. Exelston.

Drawn by Sir, Lush to the Queen

HARPIPRION HAGEDACCHE.



From Nature on/line by J. E. E. E.

Day & Son, Litho. the press

TOTANUS GLOTTIS.

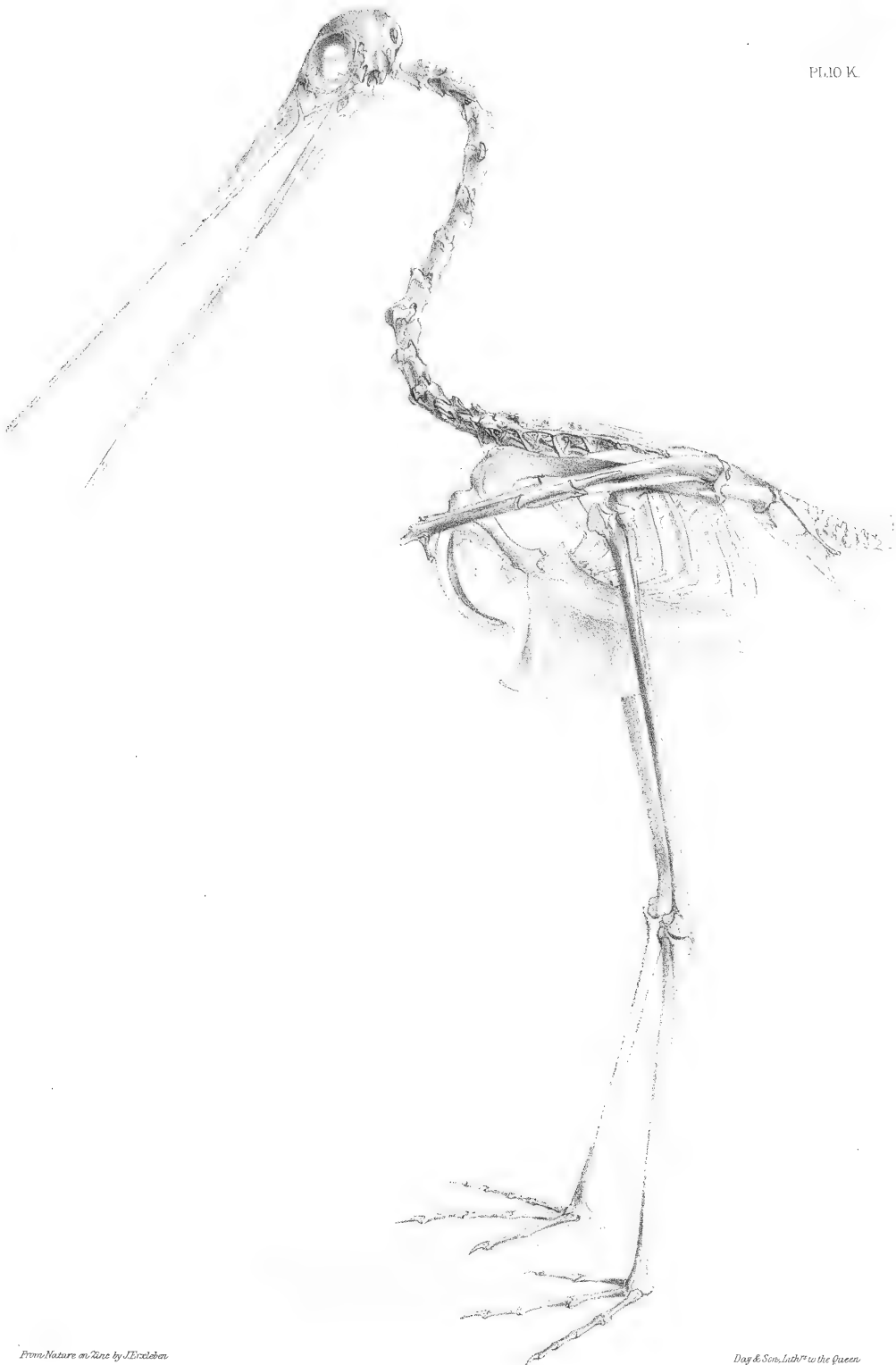




From Nature on Zinc by J. Exley.

Day & Son, Lith. to the Queen

SCOLOPAX RUSTICOLA.



From Nature on Zinc by J. E. Richardson

Drawn & Engraved by J. E. Richardson

LIMOSA RUFA.

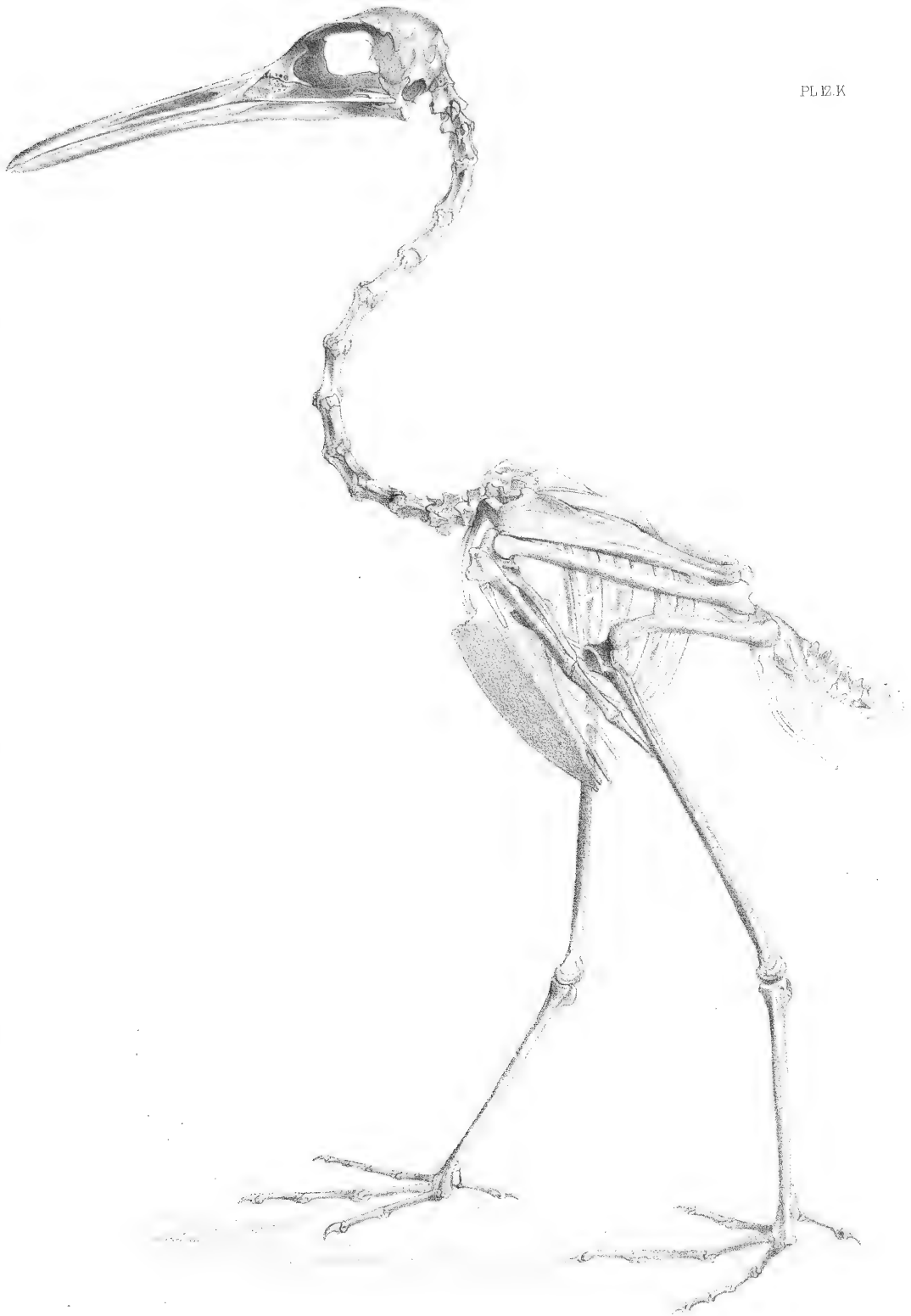


From Nature on Zinc by J. Exley

By R. Sem. Esq. to the Queen

HAMATOPUS CAPEXENS.

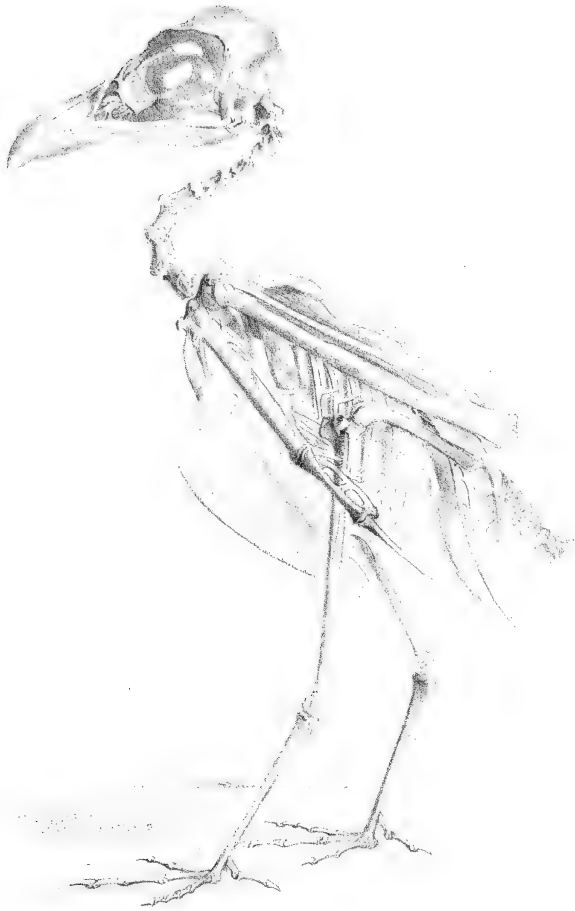
PL 12.K



From Nature on Zinc by J. Eixleben

Day & Son, Luthrs to the Queen

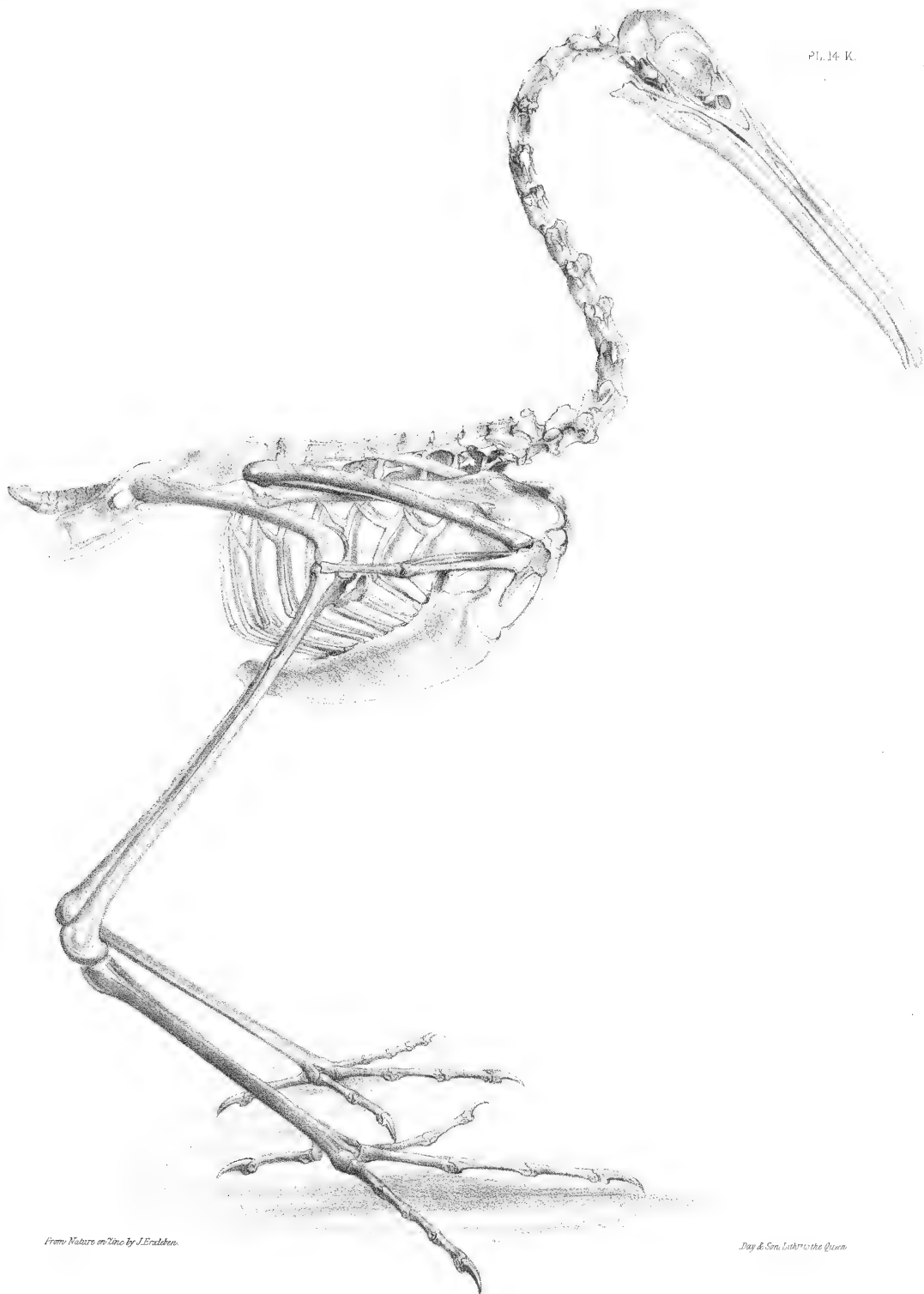
HELIAS PHALENOIDES.



From Nature on Stone by J. Lincoln.

Long & Son. Sold to the Queen.

GLAREOLA PRATINCOLA.



From Nature or Zinc by J. E. Hadden.

Day & Son, Litho: the Queen

ARAMUS SCOLOPACEUS.



Comm. Number 200-1757

Day 3: Son bath^{ed} to the Aunt

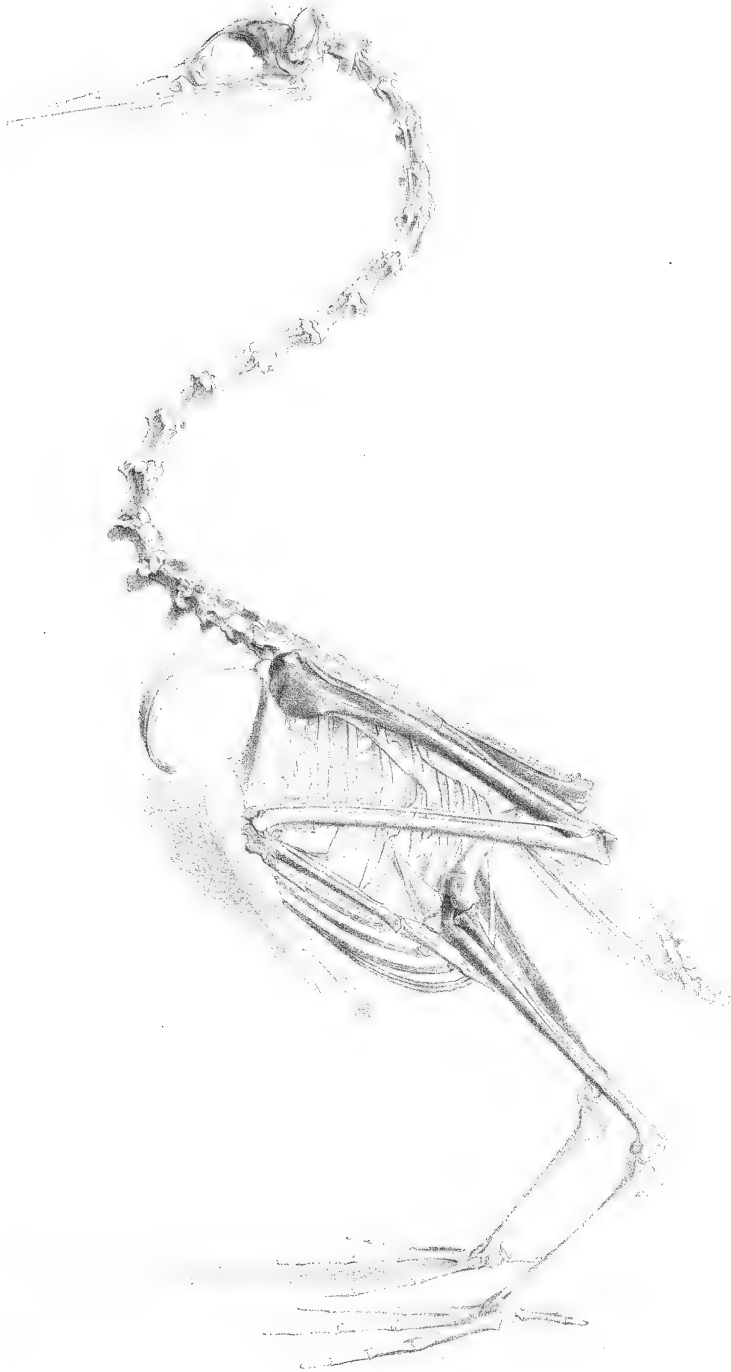
ÆDICNEMUS LONGIROSTRIS.



From Nature on Zinc by J. Exley.

Drawn & Coloured by the Queen.

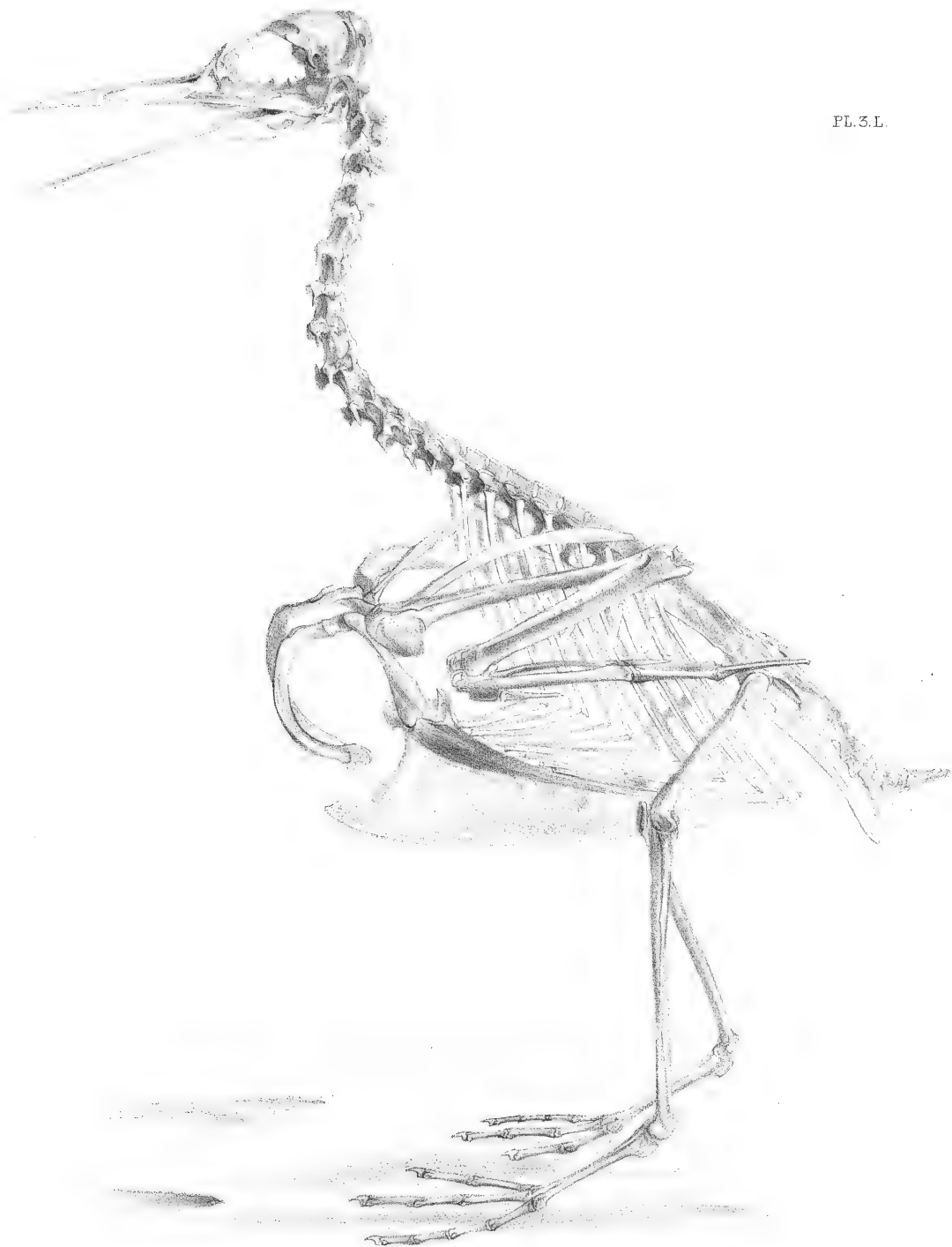
COLYMBUS SEPTENTRIONALIS.



From Nature on Zinc by J. Erxleben.

Day & Son, Lith'rs to the Queen.

·PODICEPS CRISTATUS.



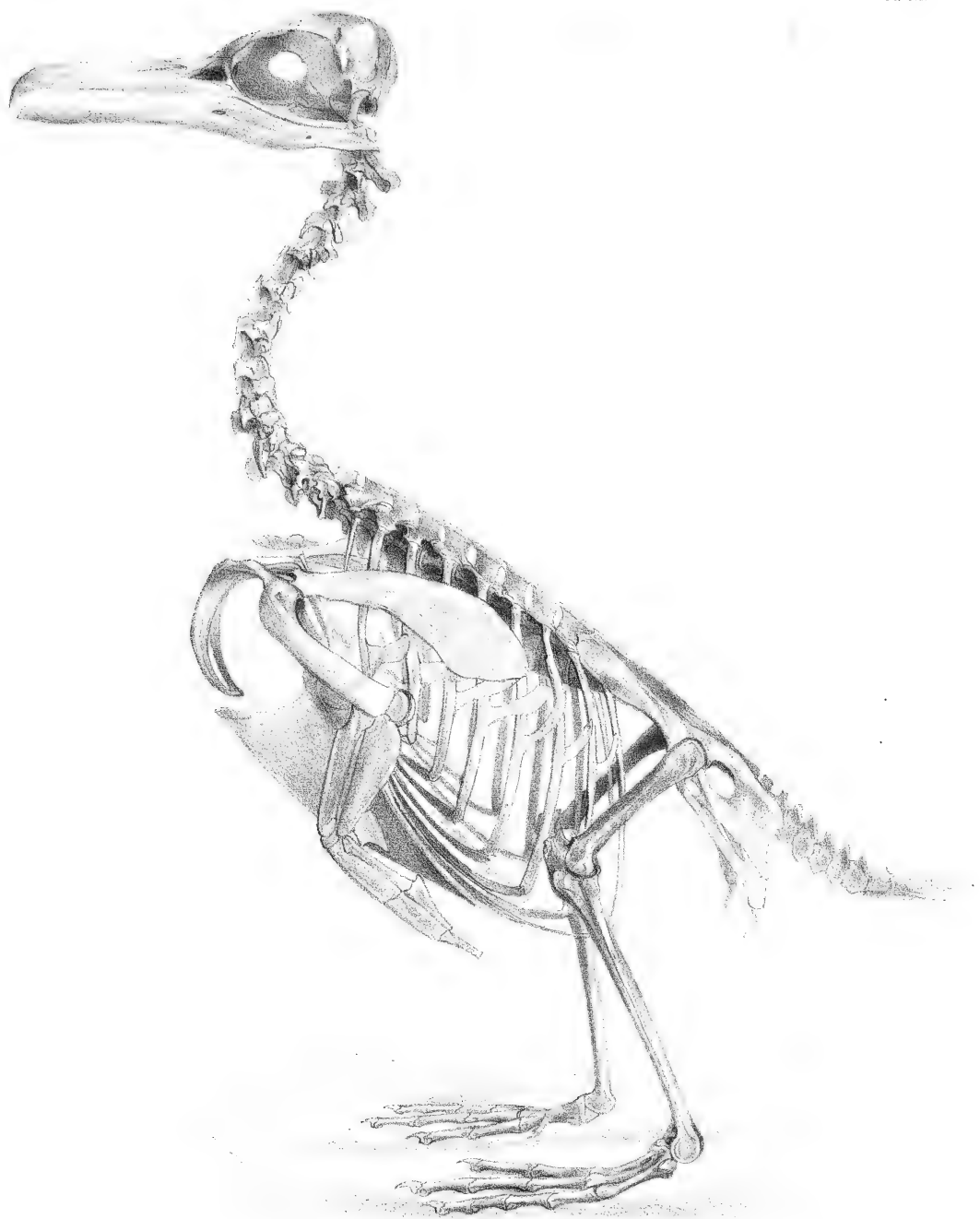
PL. 3. L.

From Nature on Zinc by J. Eschleken.

Day & Son, Lith^{rs} to the Queen.

URIA TROILE.





From Nature en Zinc by J. E. Leakey.

By A. S. M. L. to the Queen.

EUDYPTE.



From Nature on Zinc by J. Frutkin.

By E. S. Smith, Esq., to the Queen.

GRACULUS CRISTATUS.





From Nature on Zinc by J. E. S. S. S.

Drawn from the Queen's

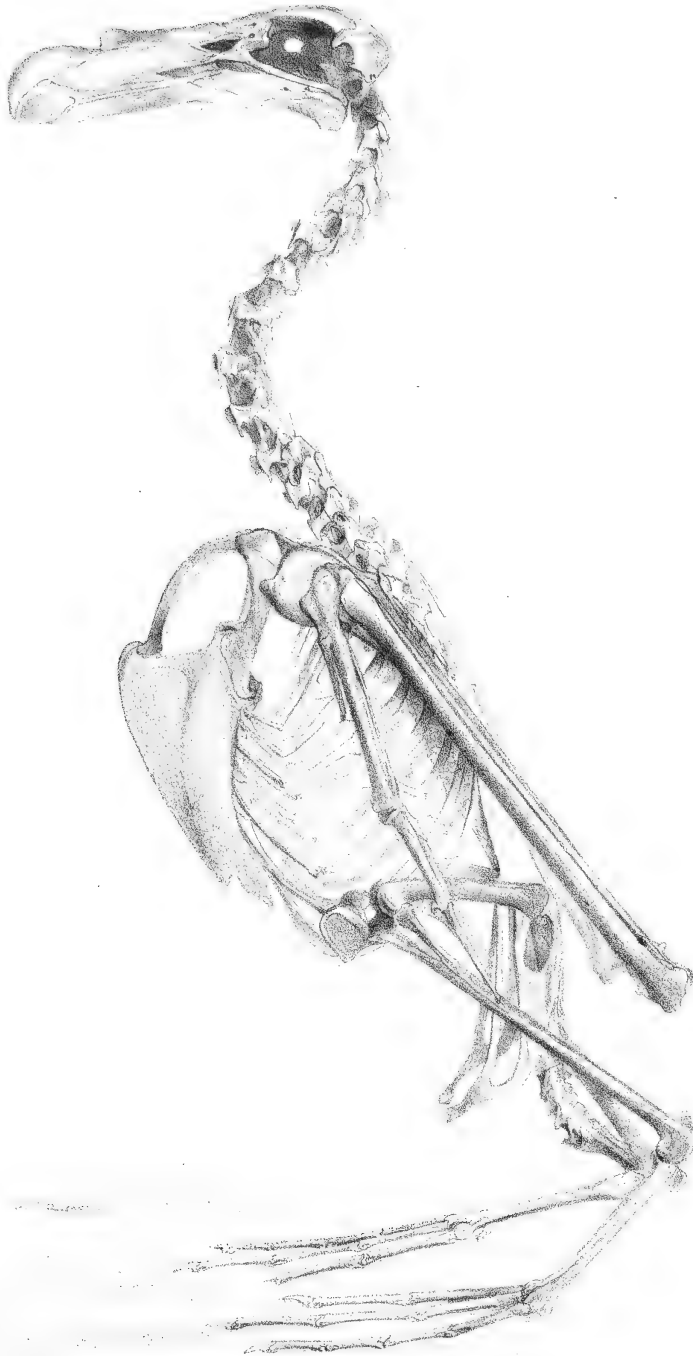
SOLA BASANA.



From Nature on Zinc by J. E. Deeken

Day & Son Lithrs to the Queen

ONOCROTALUS.



From Nature on line by J. Erskine

By & Son, Ltd. to the Queen

PROCELLARIA GIGANTIA.



From Nature on Zinc by J. Exelshorn.

Day & Son, Lith^{rs} to the Queen.

DIOMEDEA EXULANS.



From Nature on Zinc by J. E. Leiden.

Day & Son Lith^{rs} to the Queen.

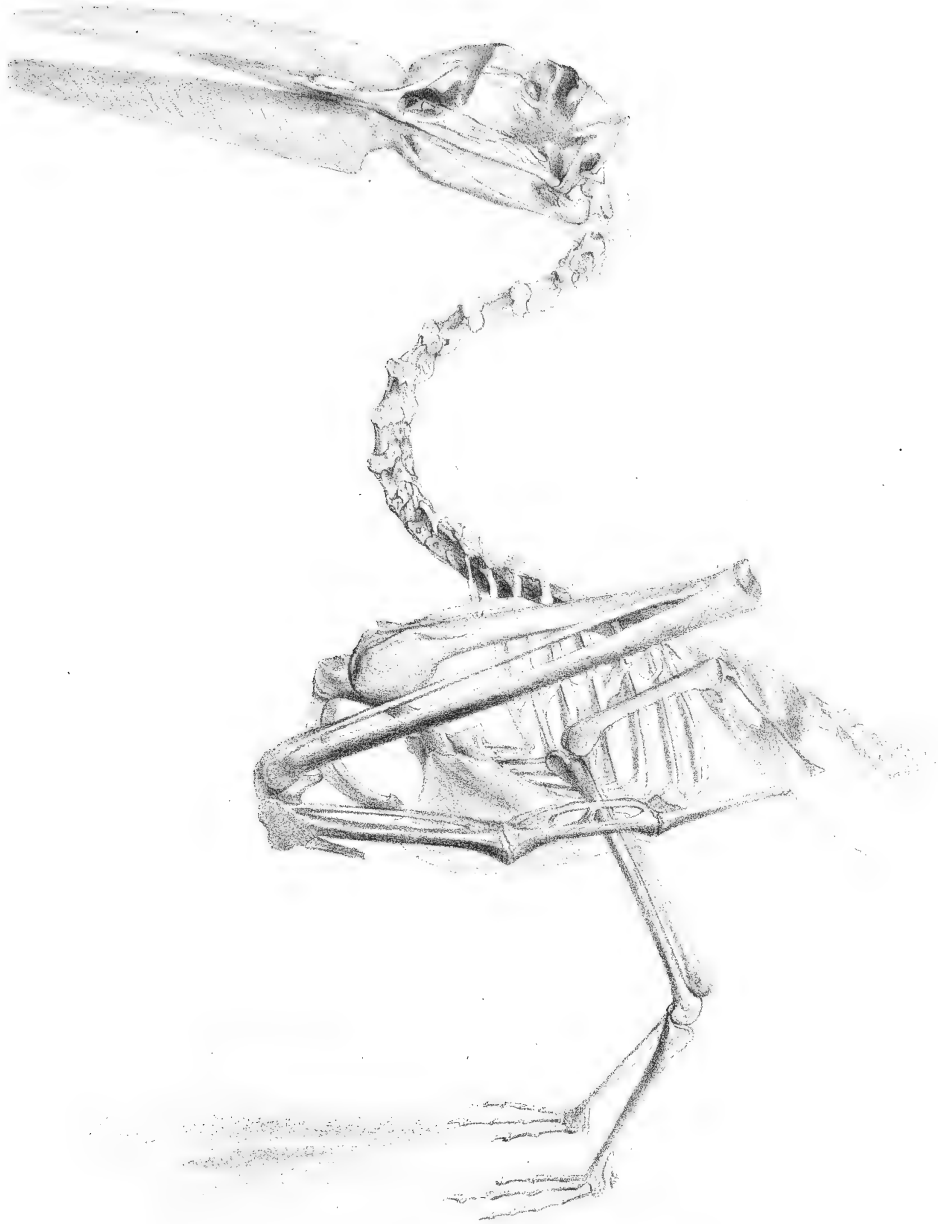
THALASSIDROMA PELAGICA.



From Nature on Zinc by J. Enderby.

Day & Son, Litho to the Queen.

CHROICOCEPHALUS RIDIBUNDUS.



From Nature in Wax by J. E. Seale

Day & Son, Litho to the Queen

RHYNCHOPS NIGRA.

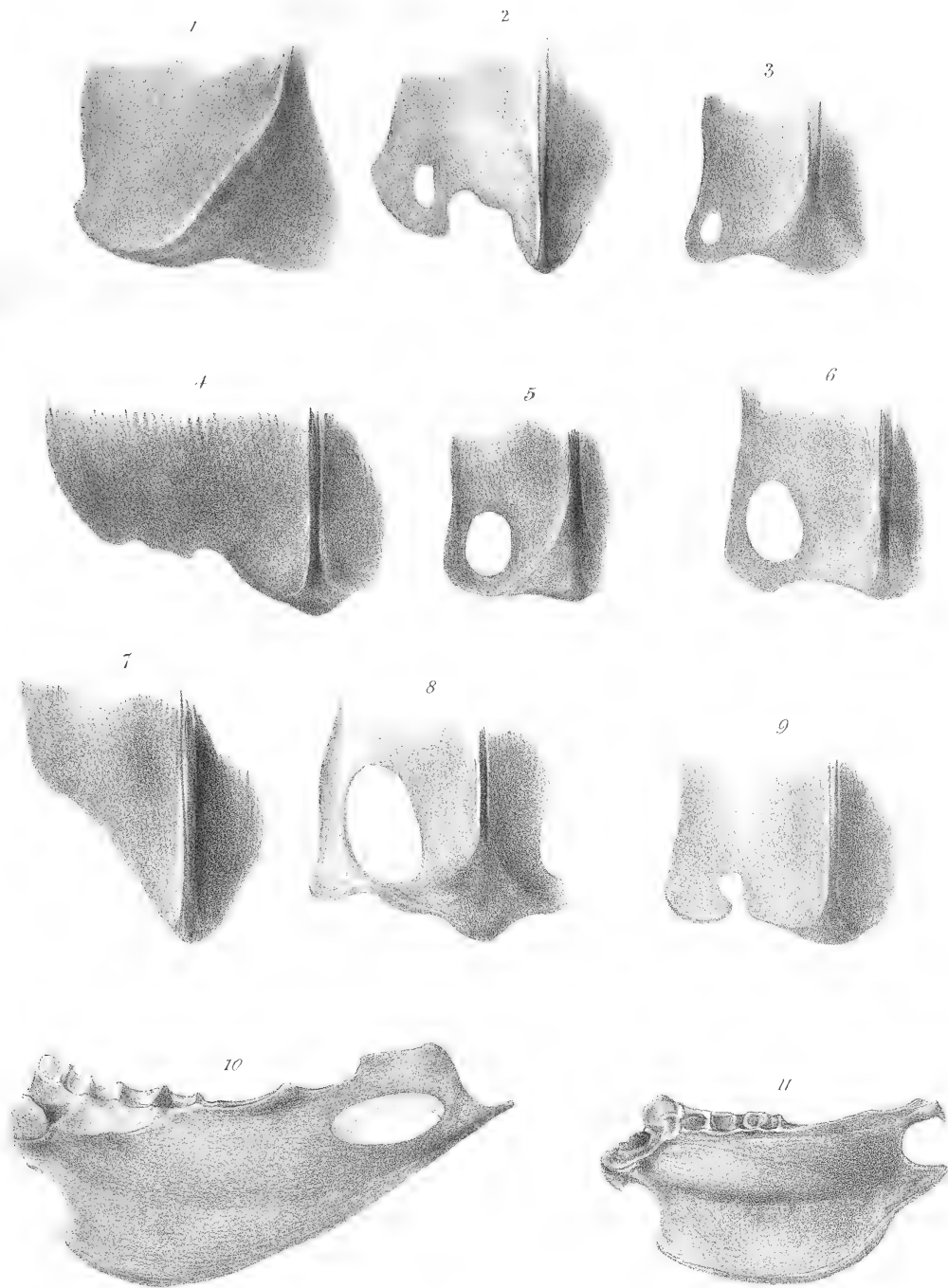


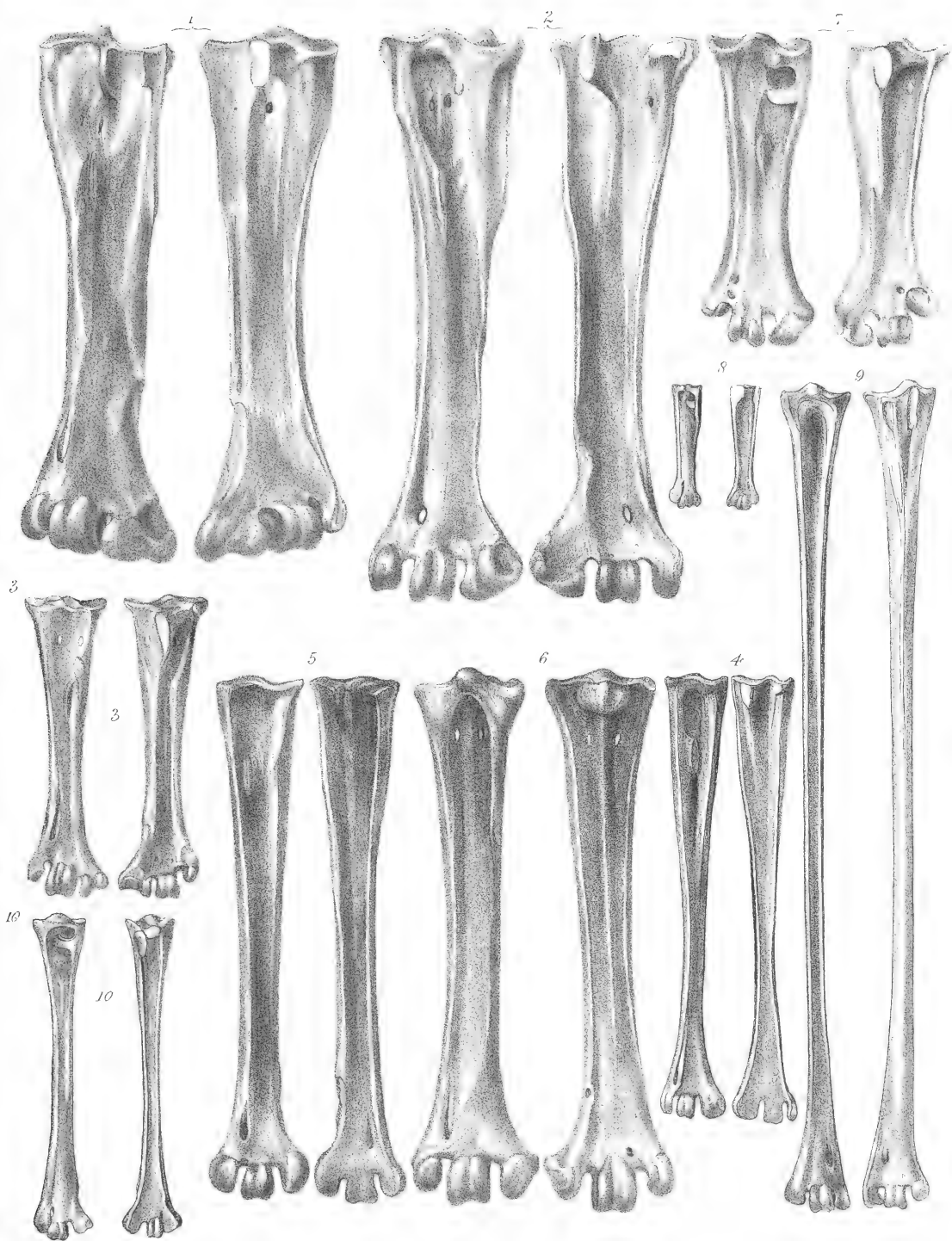
Fig 1. *Apella cryaetos*.
 2. *Cathartes aura*.
 3. *Neophron peronopterus*.
 4. *Sarcorampus gryphus*.
 5. *Gyps Fulvus*.

Fig 6. *Vultur barbatus*.
 7. *Serriacus elegans*.
 8. *Cathartes aura*.
 9. *Polyborus tharus*.
 10. *Gypaetos barbatus*.

Sarcorampus papa

Plate 1. Mandibles of birds.

From Museum of the University of Berlin.



1. *Phalaropus lobatus* (Linn.)
 2. *Phalaropus lobatus* (Linn.)
 3. *Phalaropus lobatus* (Linn.)
 4. *Phalaropus lobatus* (Linn.)
 5. *Phalaropus lobatus* (Linn.)
 6. *Phalaropus lobatus* (Linn.)
 7. *Phalaropus lobatus* (Linn.)
 8. *Phalaropus lobatus* (Linn.)
 9. *Phalaropus lobatus* (Linn.)
 10. *Phalaropus lobatus* (Linn.)
 11. *Phalaropus lobatus* (Linn.)
 12. *Phalaropus lobatus* (Linn.)
 13. *Phalaropus lobatus* (Linn.)
 14. *Phalaropus lobatus* (Linn.)
 15. *Phalaropus lobatus* (Linn.)
 16. *Phalaropus lobatus* (Linn.)

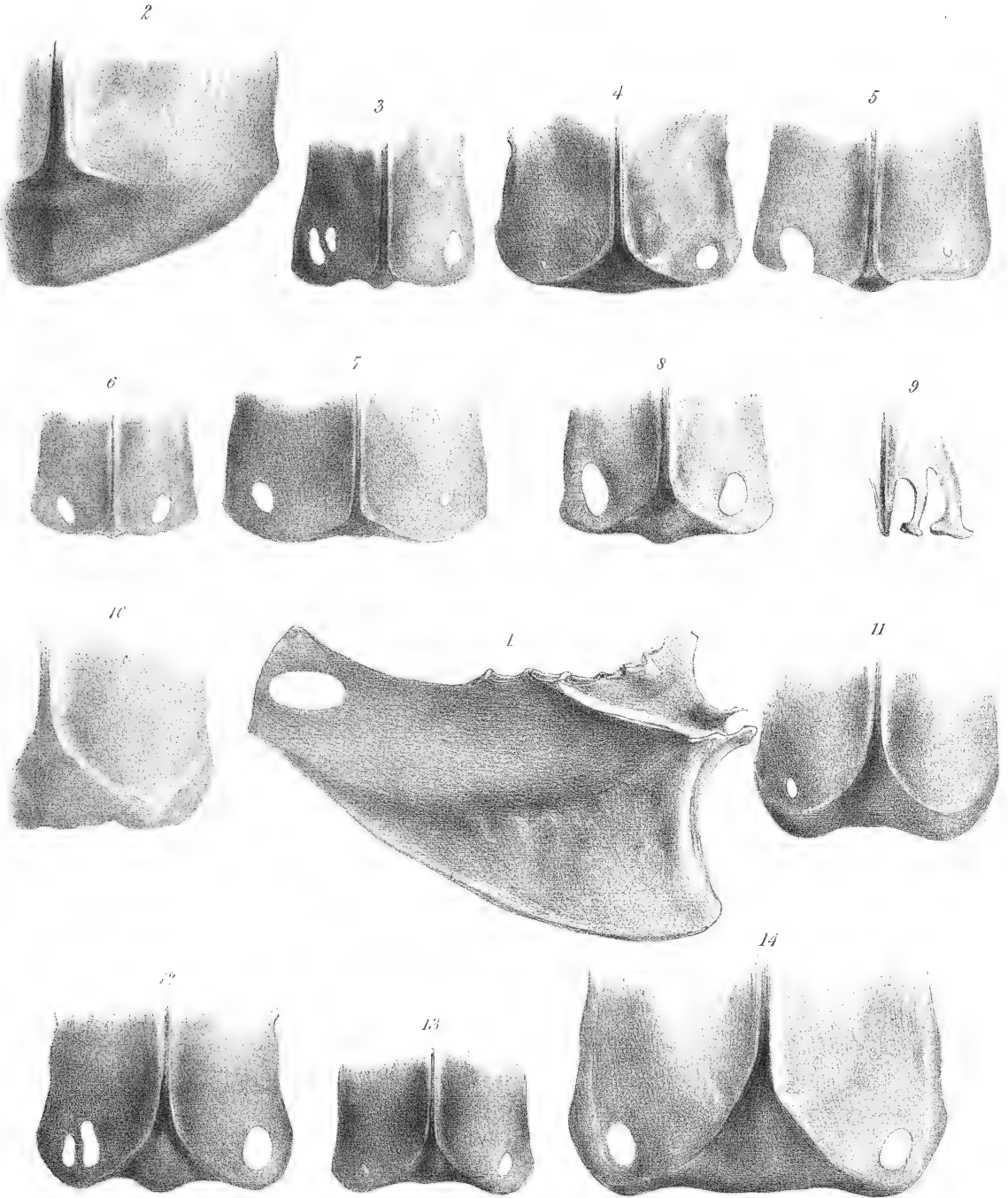


Fig. 1. *Falco Gyrfalco*.
 " 2. *Pandion Leucocephalus*.
 " 3. *Hieracidea Berigora*.
 " 4. *Circus Cyaneus*.
 " 5. *Ibycter Aler*.
 " 6. *Accipiter Nisus*.
 " 7. *Mimus Migrans*.

Fig. 8. *Cymindis Tricinctus*.
 " 9. *Hierac Bengalenensis*.
 " 10. *Pandion Halietus*.
 " 11. *Circus Brachydactylus*.
 " 12. *Spizacus Cirrhatus*.
 " 13. *Heliaster Ponticarianus*.
 " 14. *Aquila Navia*.

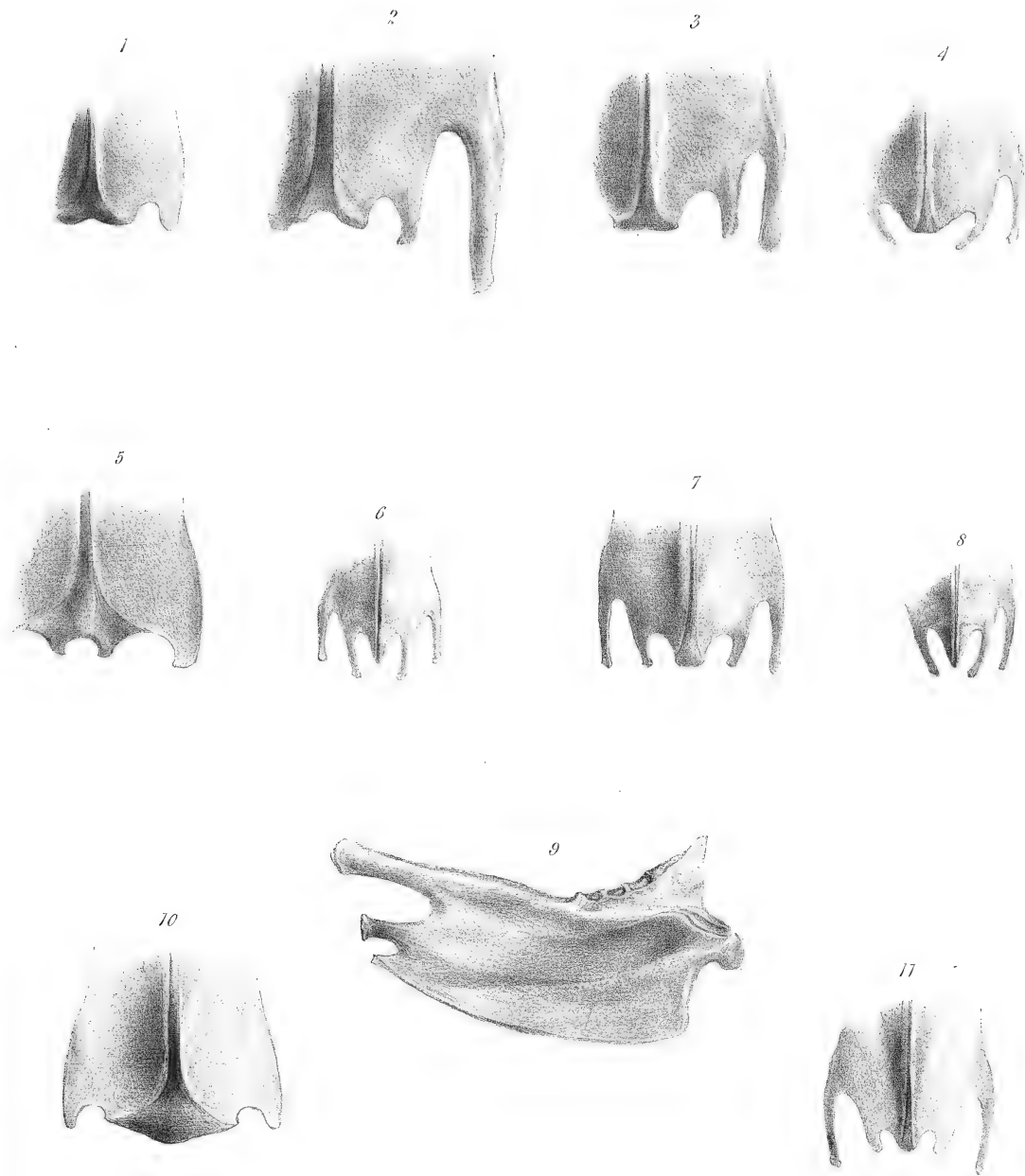


Fig. 1. *Strix Delicatulus*.

" 2. *Nyctea Nivea*.

" 3. *Lasiurus Javanensis*.

" 4. *Eptesicus Grammicus*.

" 5. *Strix Praticola*.

Fig. 6. *Nyctale Tengmaïmi*.

" 7. *Asio Brachyotus*.

" 8. *Noctua (Jamaica)*.

" 9. *Bubo Bengalensis*.

" 10. *Strix Flammea*.

Fig. 11. *Athene Marmorata*.

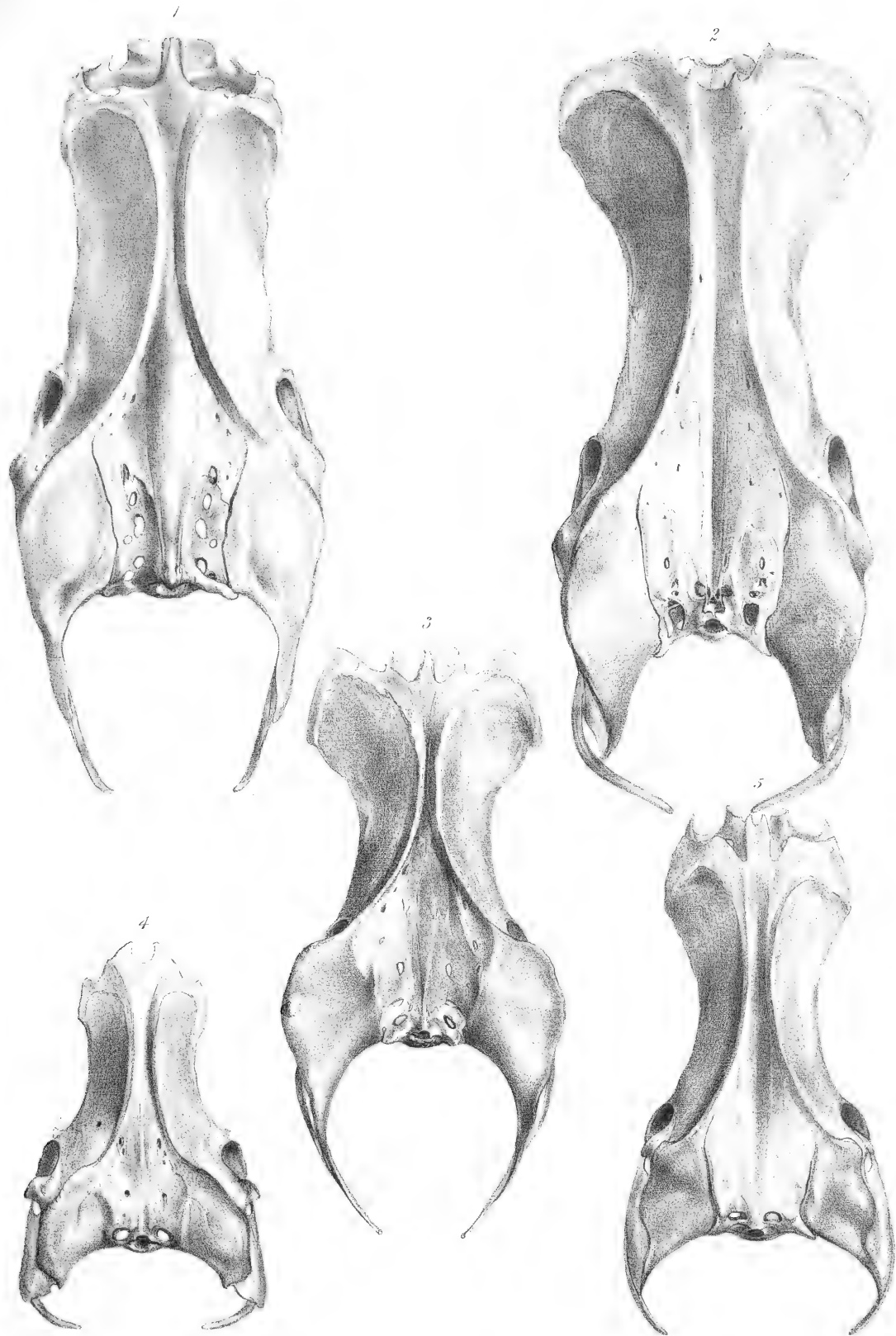


Fig 1. *Sarcophagus* Papa.
 " 2. *Aquila* *cinereus*.
 " 3. *Myctea* *livra*.
 " 4. *Falco* *peregrinus*.
 " 5. *Pandion* *haliaetus*.

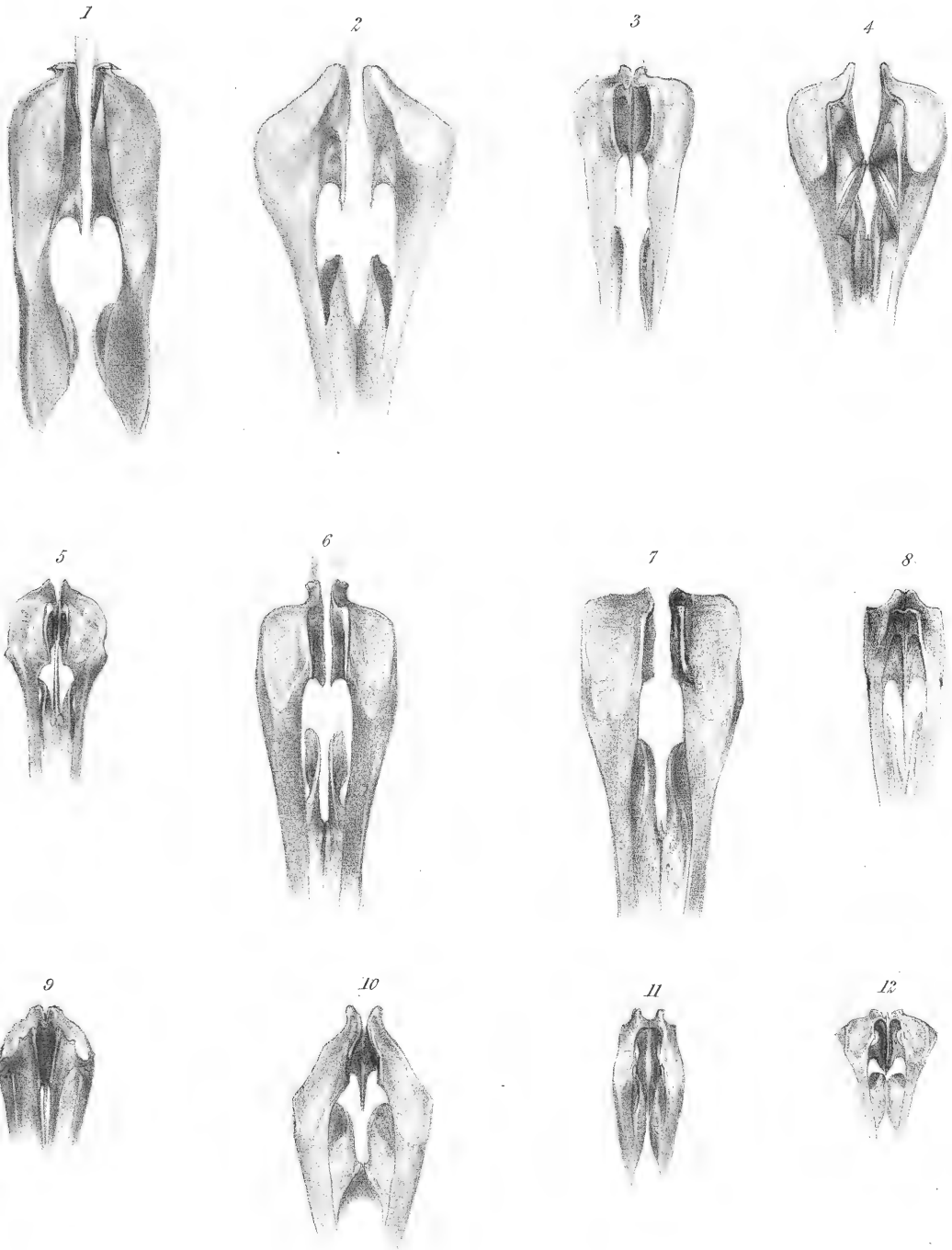


Fig. 1. *Sarcoramphus Gryphus*.
 " 2. *Serpentarius Reptilivorus*.
 " 3. *Neophron Percnopterus*.
 " 4. *Polyborus Tharus*.
 " 5. *Falco Peregrinus*.
 " 6. *Aquila Chrysaetos*.

Fig. 7. *Circus Brachydactylus*.
 " 8. *Spizaetus Cirrhatus*.
 " 9. *Heracidea Berigora*.
 " 10. *Nyctea Nivea*.
 " 11. *Syrinx Delicatulus*.
 " 12. *Asio Brachyotus*.



From Nature on Zinc by J. Erxleben.

Fig. 1. *Sarcorampbus Papa*.
 " 2. *Falco Peregrinus*.
 " 3. *Nyctea Nivosa*.

Dee & Son, Lith^{rs} to the Queen.

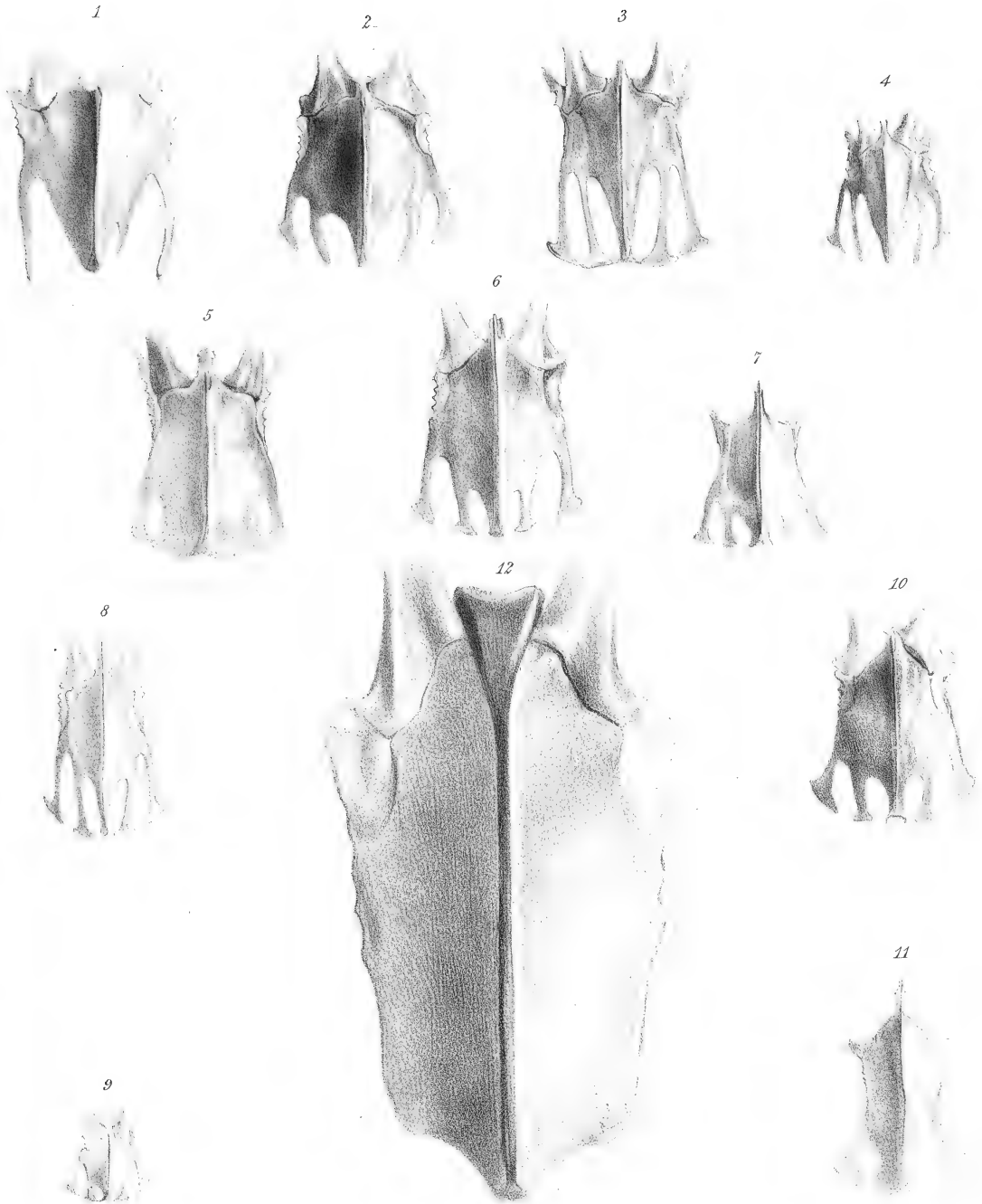
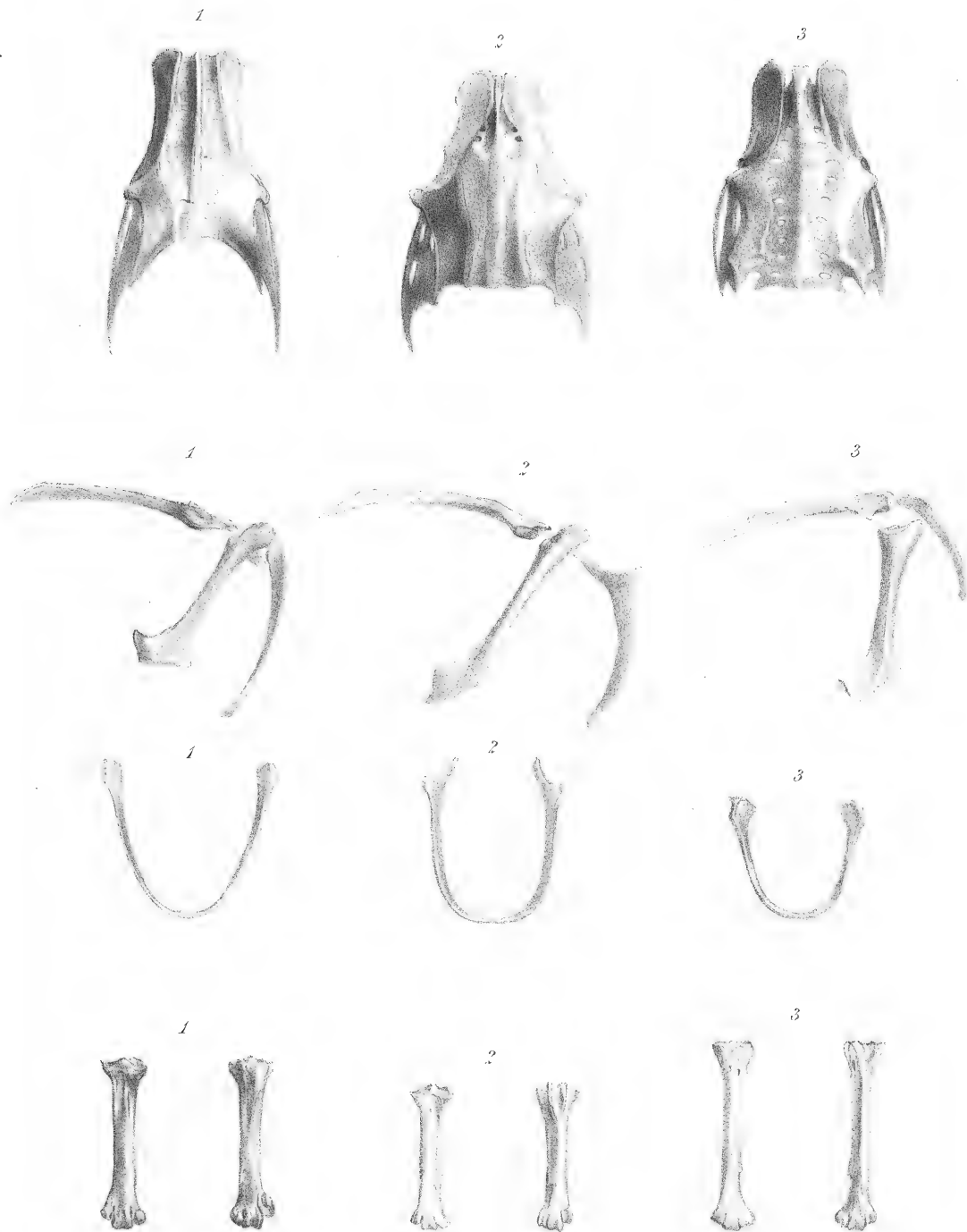
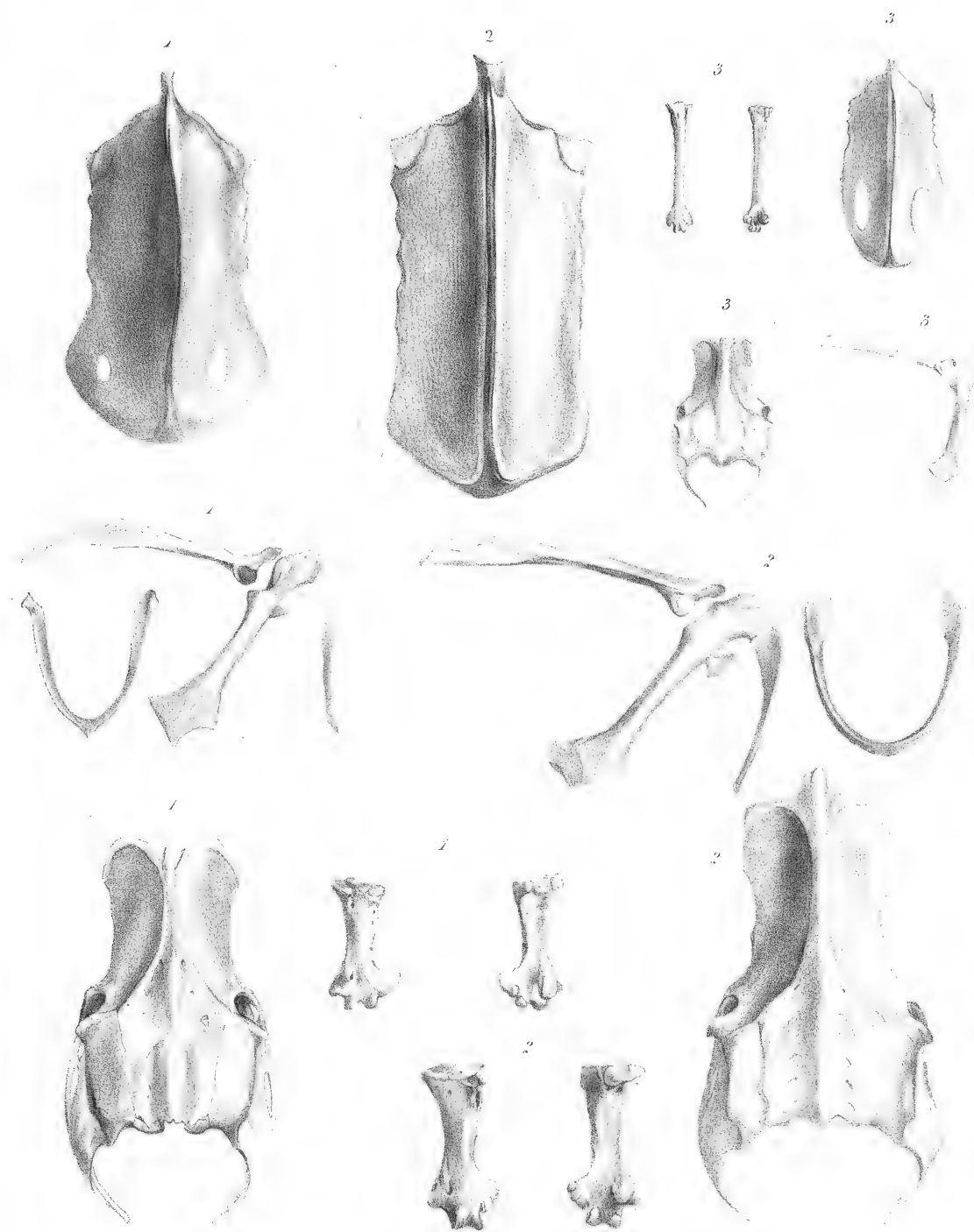


Fig. 1. *Podargus Humeralis*.
 " 2. *Harpactes Reinswartii*.
 " 3. *Megalaema Corvina*.
 " 4. *Chelonidera Tenebrosa*.
 " 5. *Eurylaimus Samatranus*.
 " 6. *Eurystormus Orientalis*.

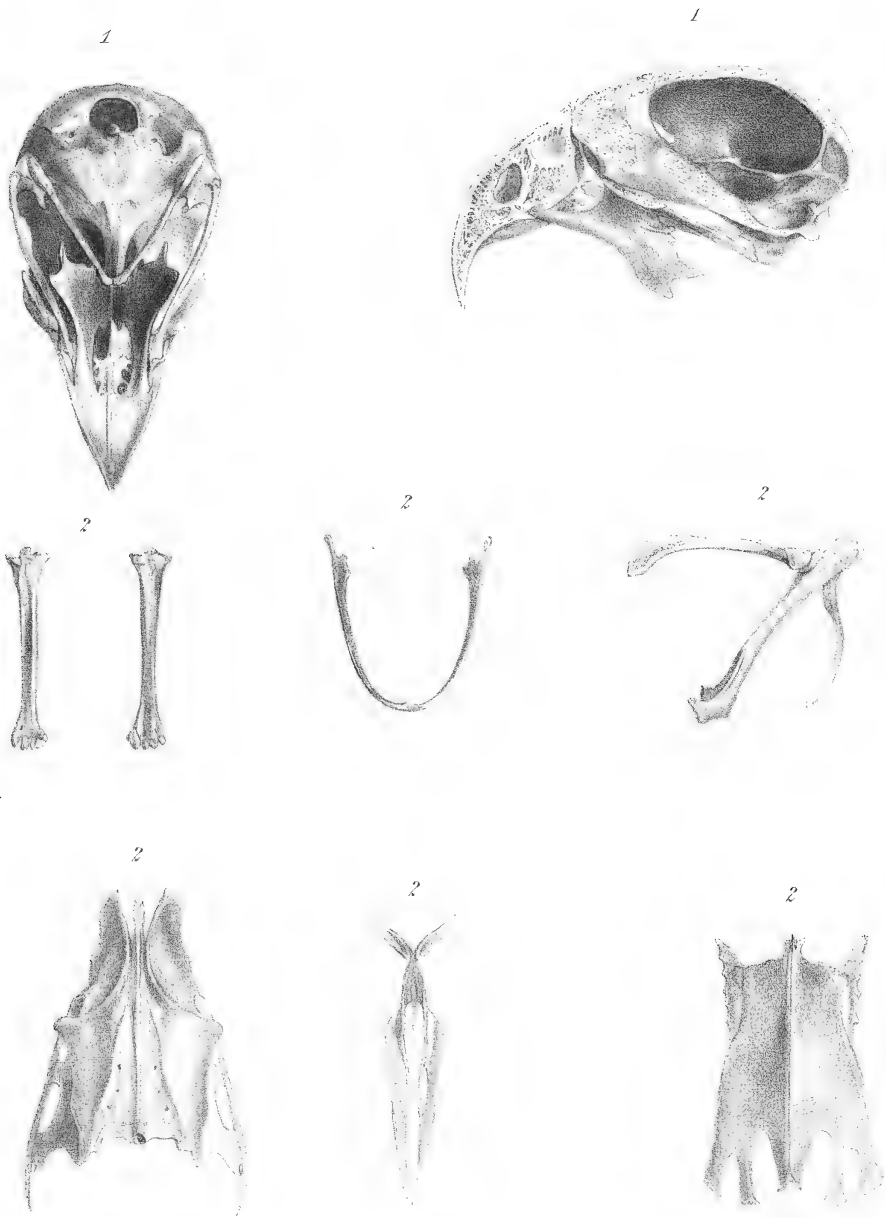
Fig. 7. *Alcedo Ispida*.
 " 8. *Merops Bicolor*.
 " 9. *Todus Viridis*.
 " 10. *Coracias Garrula*.
 " 11. *Upupa Epops*.
 " 12. *Buceros Abyssinicus*.



Figs. 1. *Podargus Humeralis*.
 „ 2. *Dacelo Leachii*.
 „ 3. *Pezoporus Formosus*.



Figs. 1. *Psittacus Erythacus*
 „ 2. *Calyptorhynchus Baudinii*.
 „ 3. *Pezoporus Formosus*.



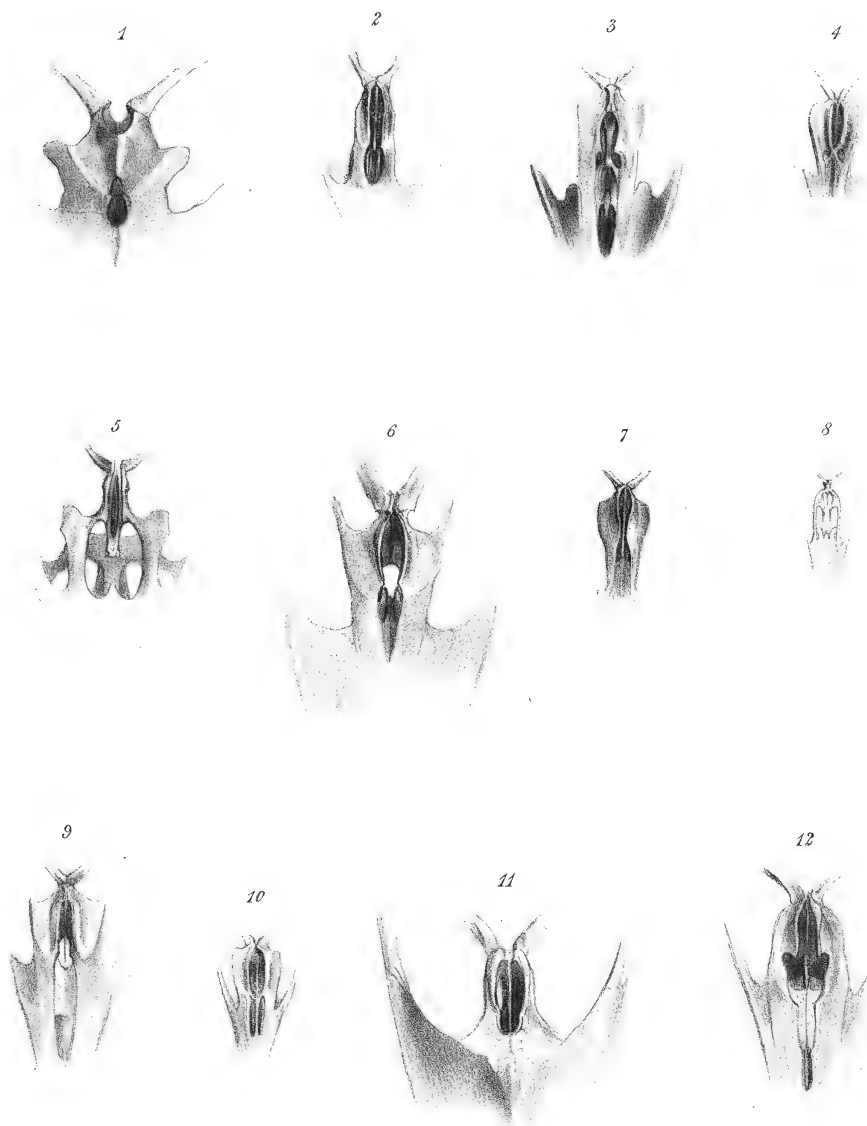
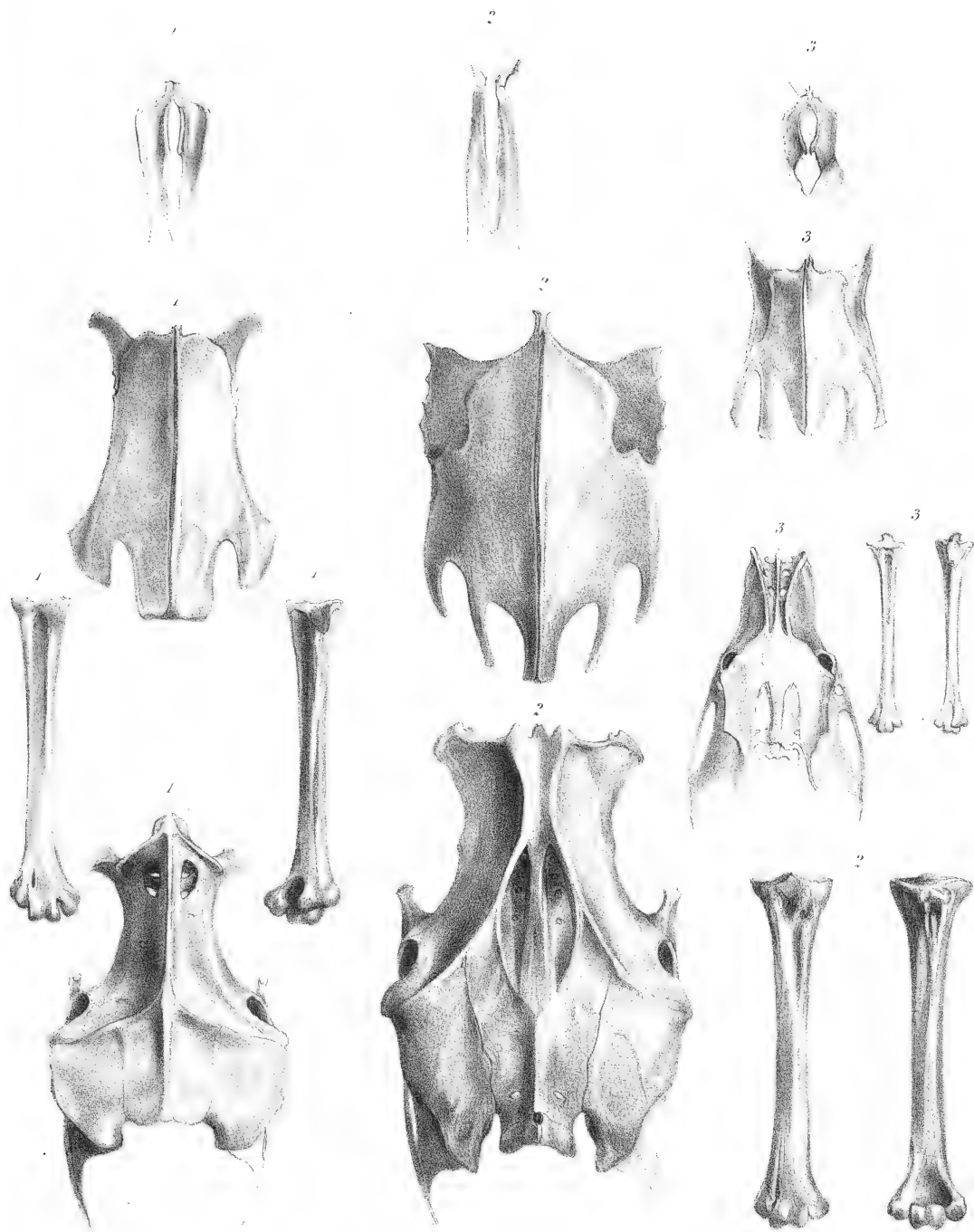


Fig. 1. *Podargus Humeralis*.
 „ 2. *Harpactes Reinwartii*
 „ 3. *Megalaima Virens*.
 „ 4. *Chelonidera Tenebrasa*.
 „ 5. *Eurylaimus Sumatranus*.
 „ 6. *Dacelo Gigantea*.

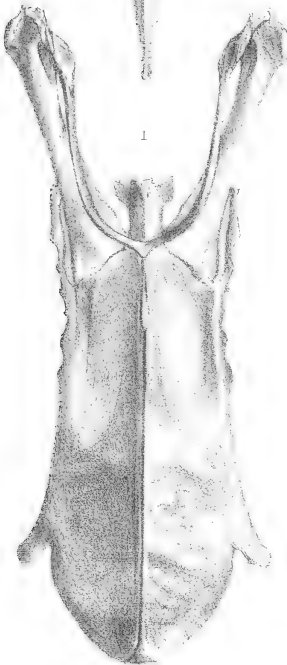
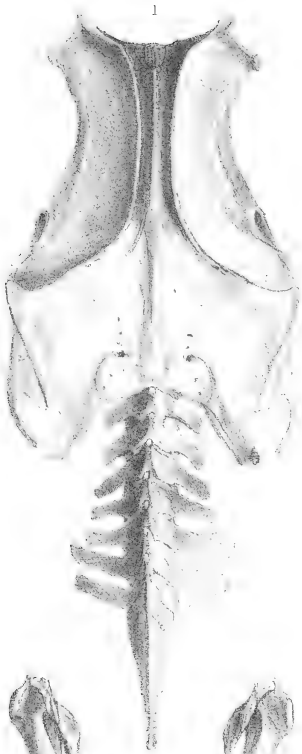
Fig. 7. *Merops Bicolor*.
 „ 8. *Todus Viridis*.
 „ 9. *Coracias Garrula*.
 „ 10. *Upupa Epops*.
 „ 11. *Buceros Panini*.
 „ 12. *Momotus Brasilensis*.



Figs. 1. *Centropus Phasianus*.

" 2. *Turacus Gigas*.

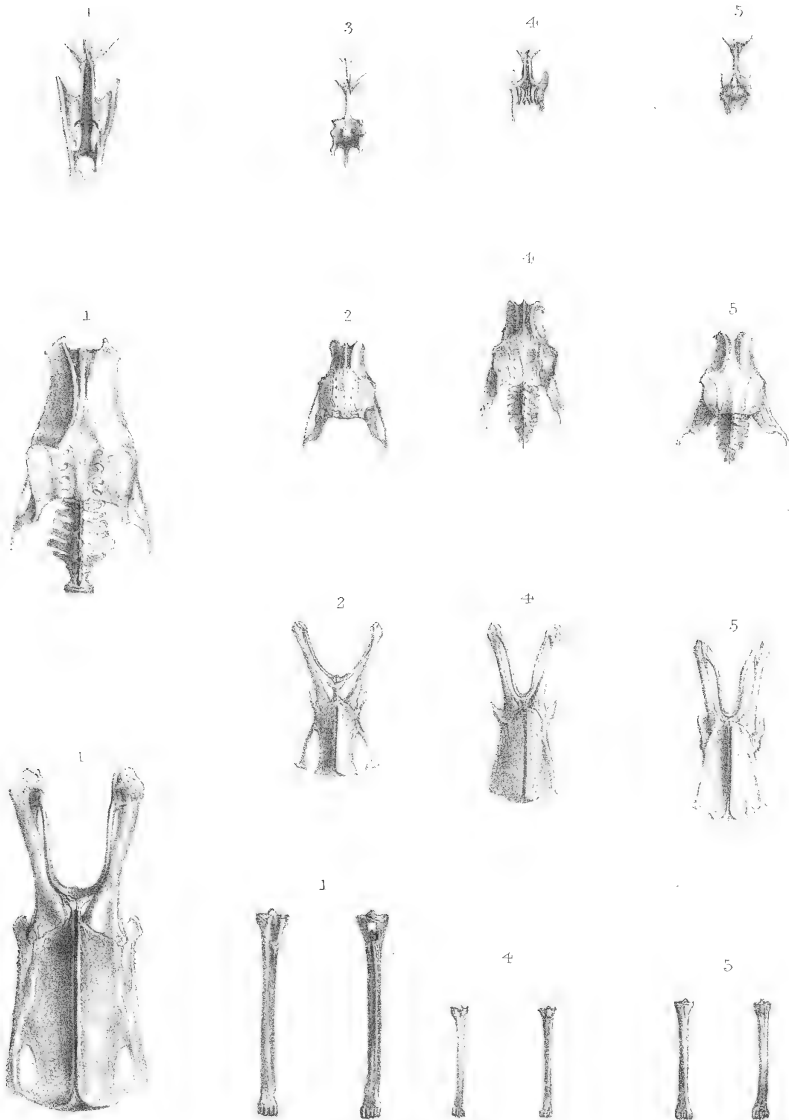
" 3. *Pteroglossas Balceni*



From Nature as Lived by J. B. S. Pterodactyl

by J. B. S. Pterodactyl as Lived by J. B. S. Pterodactyl

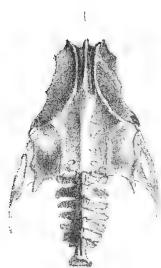
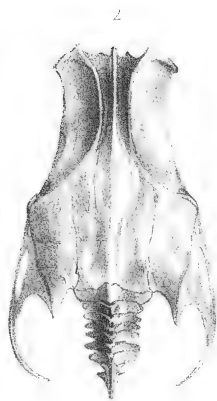
1. MENURA SUPERBA. 2. PTEROPTOCHOS ALBICOLLIS.



From Nature on Zinc by J. E. Deane

Engraved by J. E. Deane

1. TROPIDORHYNCHUS ARGENTICEPS. 2. TROGLODYTES VULGARIS. 3. TROGLODYTES VULGARIS. 4. HERCETO REPENS. 5. NECTARINIA JAVANICA.



From Nature on Zinc by E. Blandin.

Drawn & Semi-Lith'd to the Queen.

1. TYTYRA INQUISITOR.. 2. PETRICOLA AURANTIA.
3. TCHITREA MELANOPYGA.

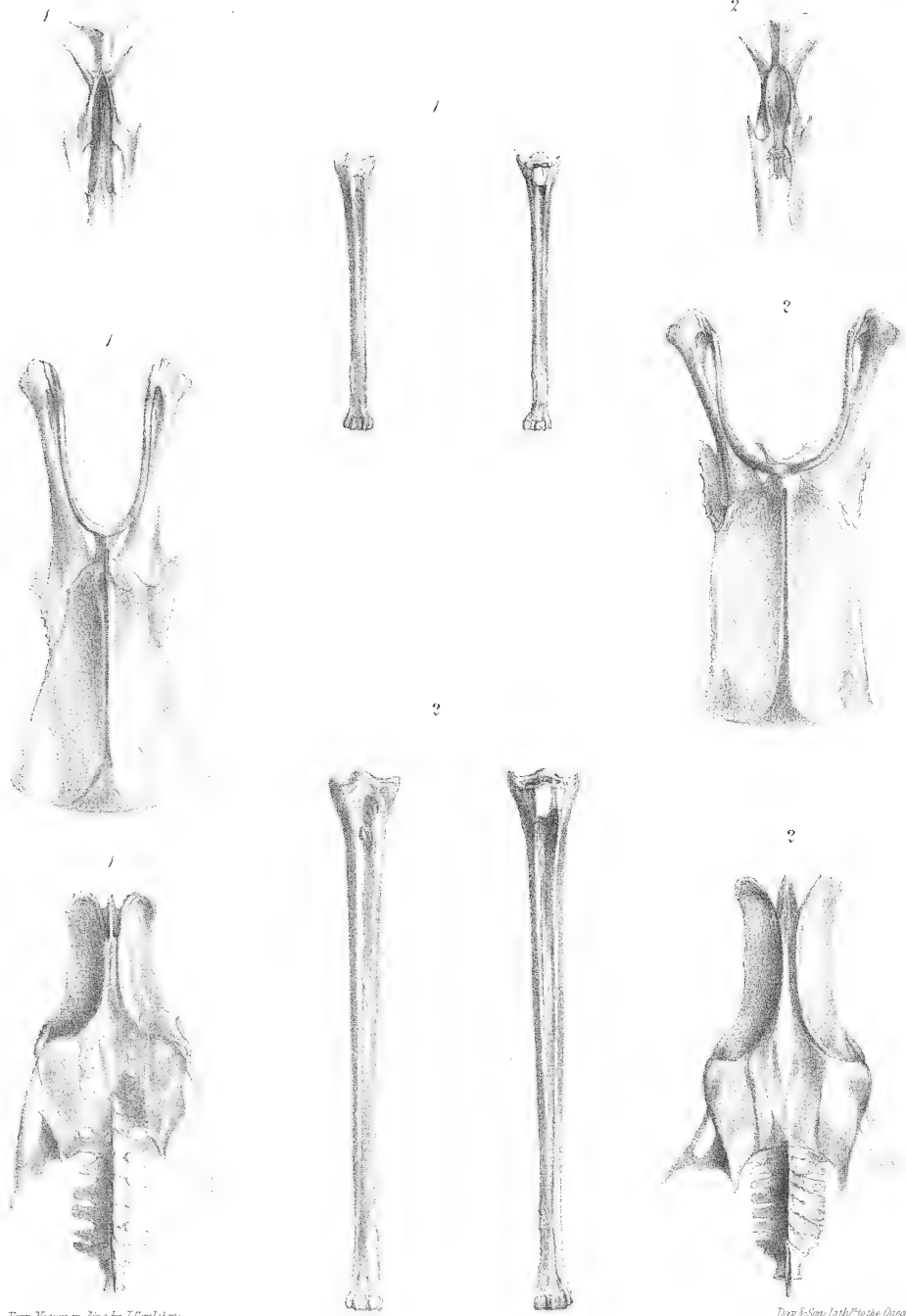




From Nature on Zinc by J. Erxleben.

1. ALAUDA ARVENSIS. 2. PARUS CORONEUS.
3. Miliaria CYANEUS. 4. PHOENICURUS PHOENICEUS.

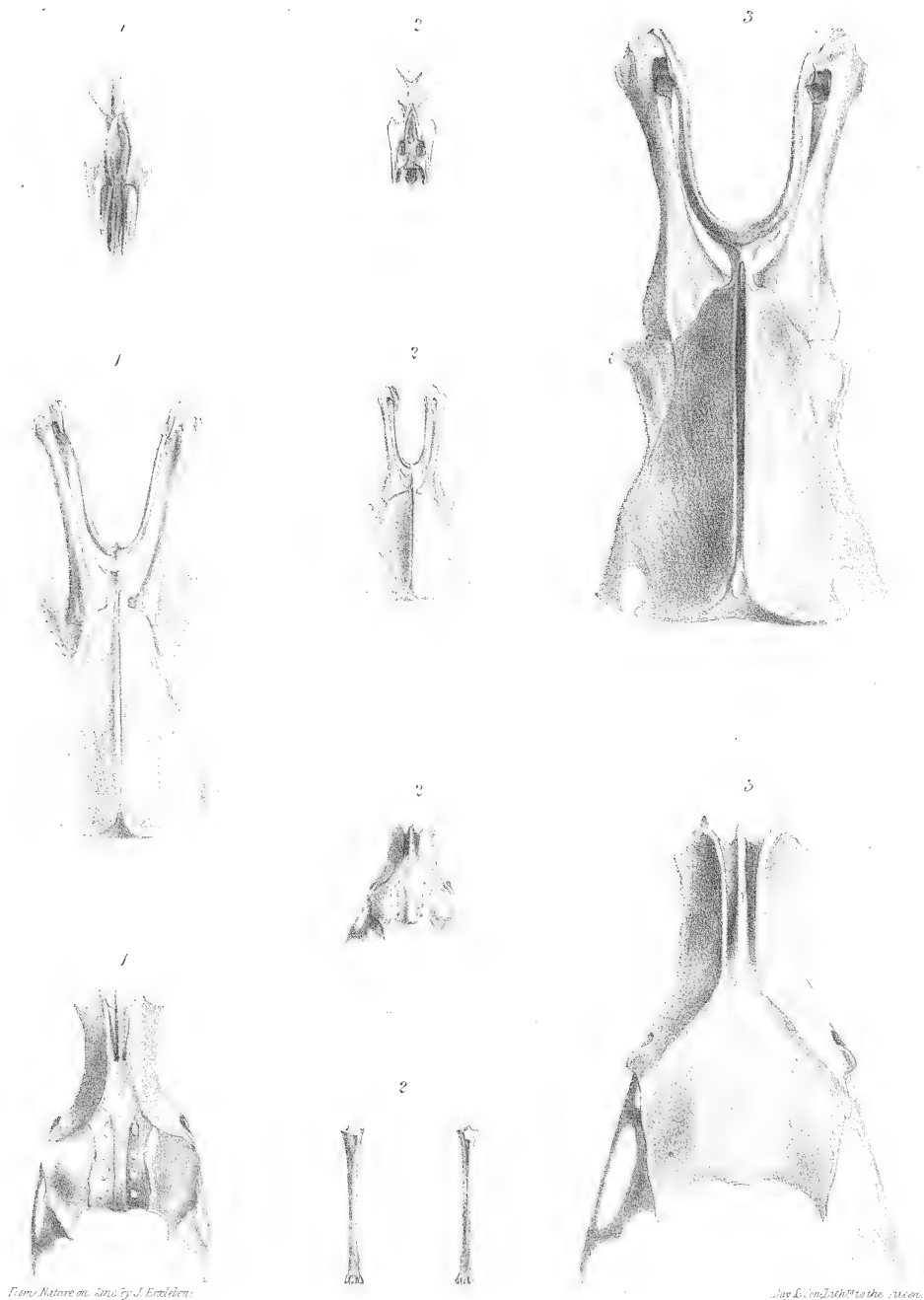




From Nature on Zinc by J. B. S. P. 1880.

Drawn by S. A. 1880 to the Queen.

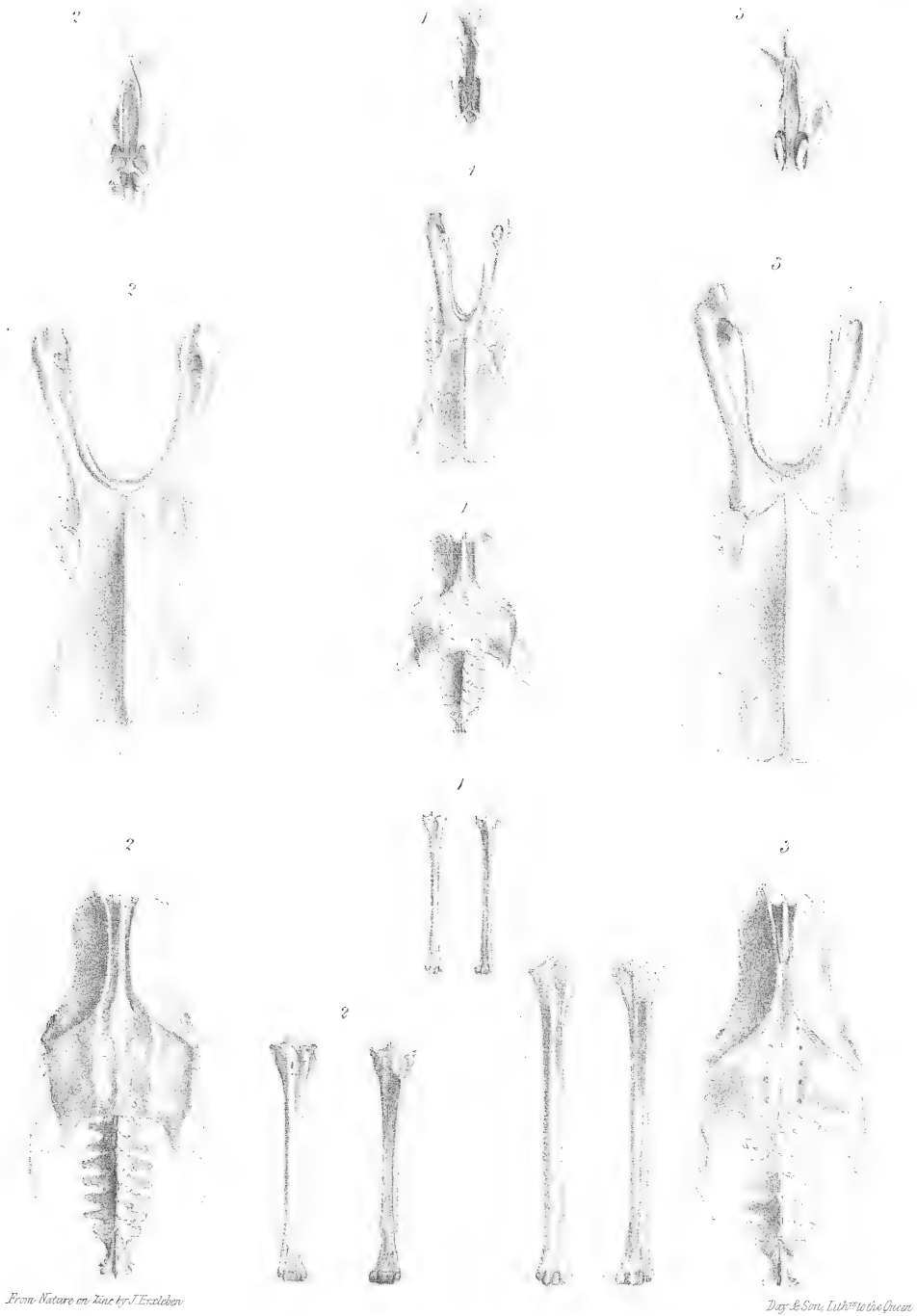
1. *Cassicus bifasciatus*.
2. *Neomorpha Gouldii*.



From Nature on June 15, 1888.

See L. in Nature on June 15, 1888.

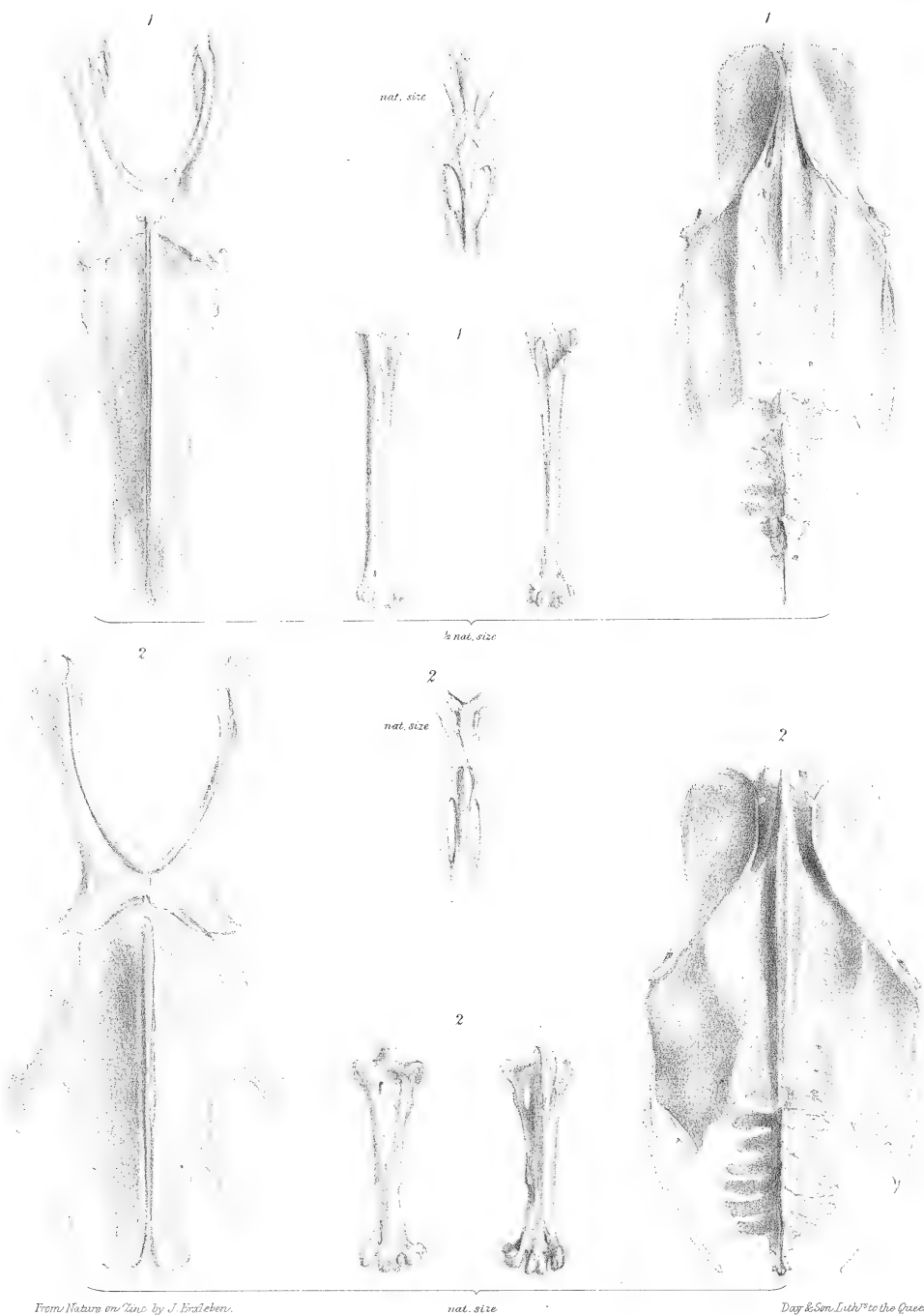
1. *Scolephagus major*.
2. *Cyclarius quanensis*.
3. *Cephalopterus pencluliger*.



From Nature on Zinc by J. E. Sclater

Dry. & Sons, Litho to the Queen

1. *Saltator magnus.*
2. *Gypsirhina leucoptera*
3. *Fregilus graculus.*

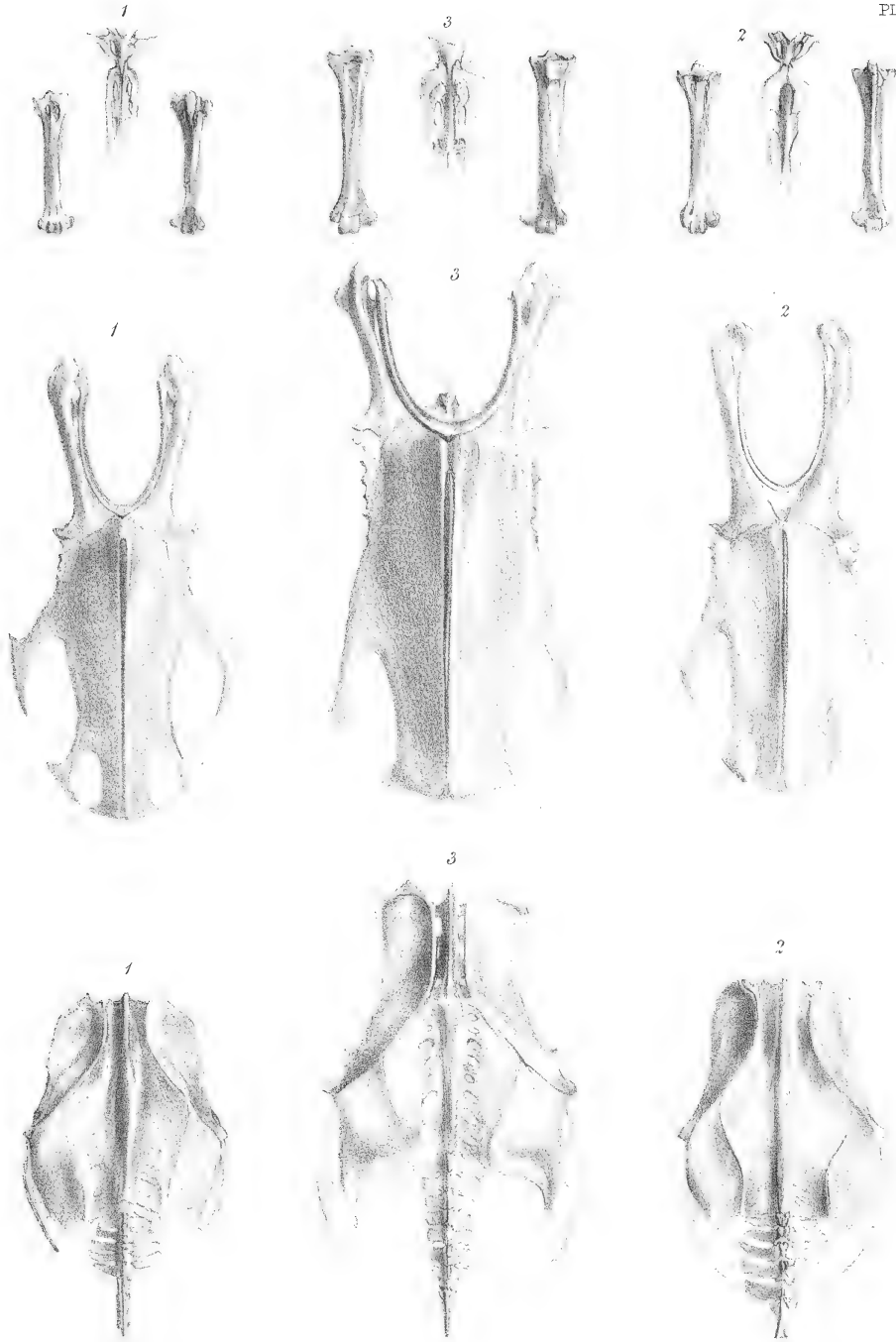


From Nature on Zinc by J. Fraebelen.

nat. size

Drawn by Sm. Lith. by the Queen.

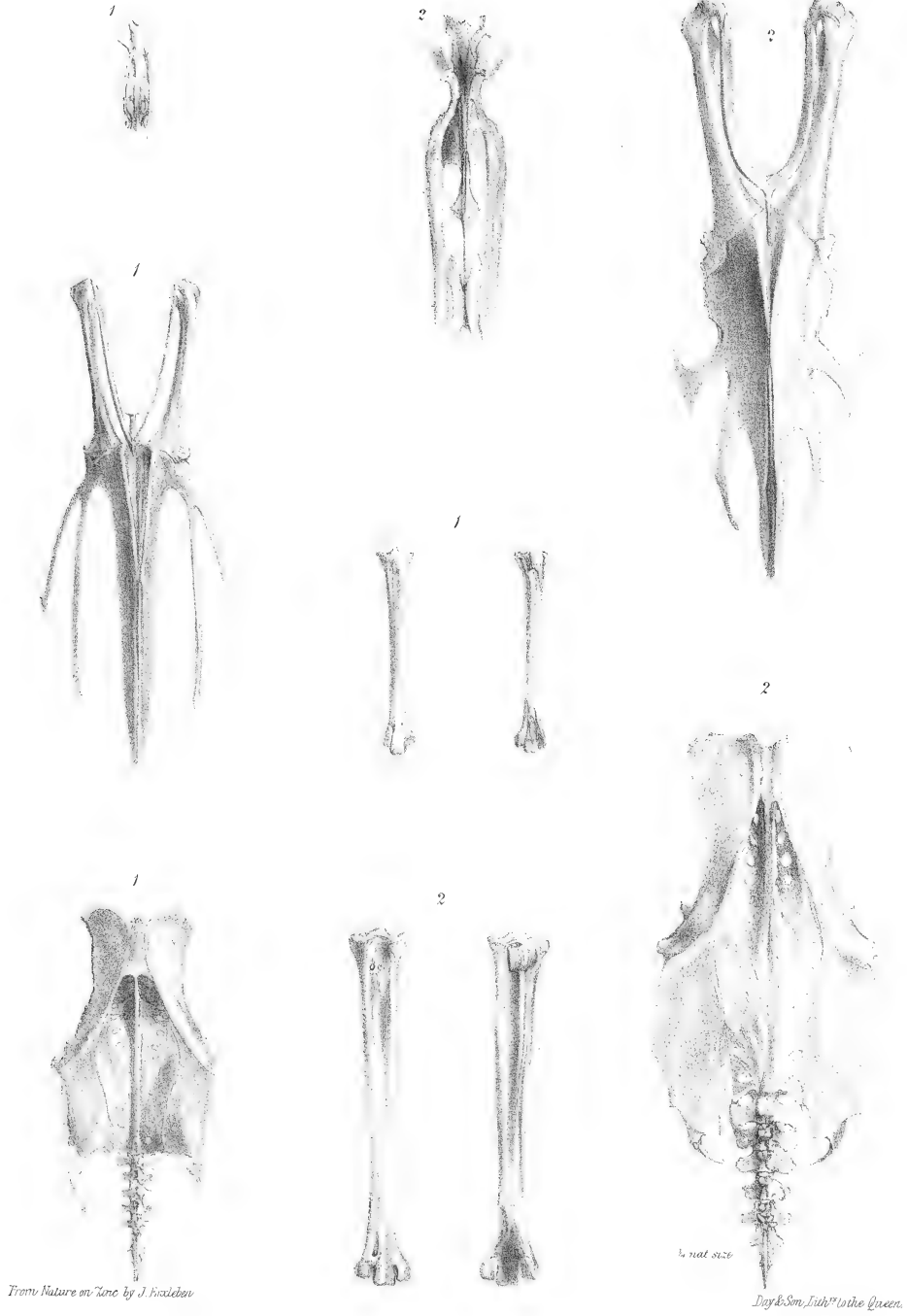
1. *Goura coronata*
2. *Columba magnifica*




From Nature as Laid by J. Erskine.

Laid by J. Erskine, Laid to the Queen.

- 1 *Phalacrotreron nudirostris*
- 2 *Ptilinopus caucatus*
3. *Attagis Gayi*



1. *Lophortyx californicus*.
2. *Crax globicera*.

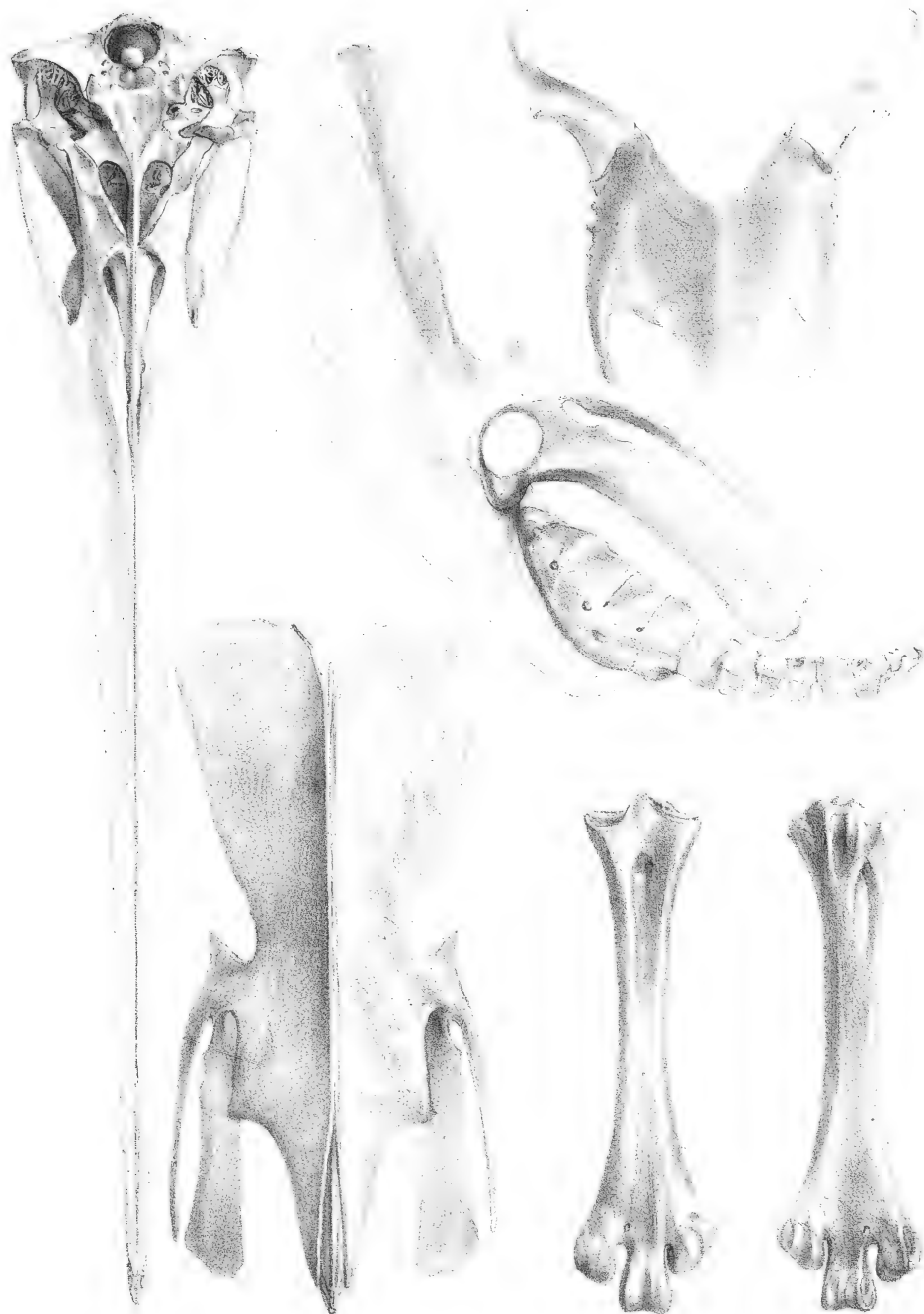


From Nature on Zinc by J. Exdove



Drawn by Son. Luth^r to the Queen.

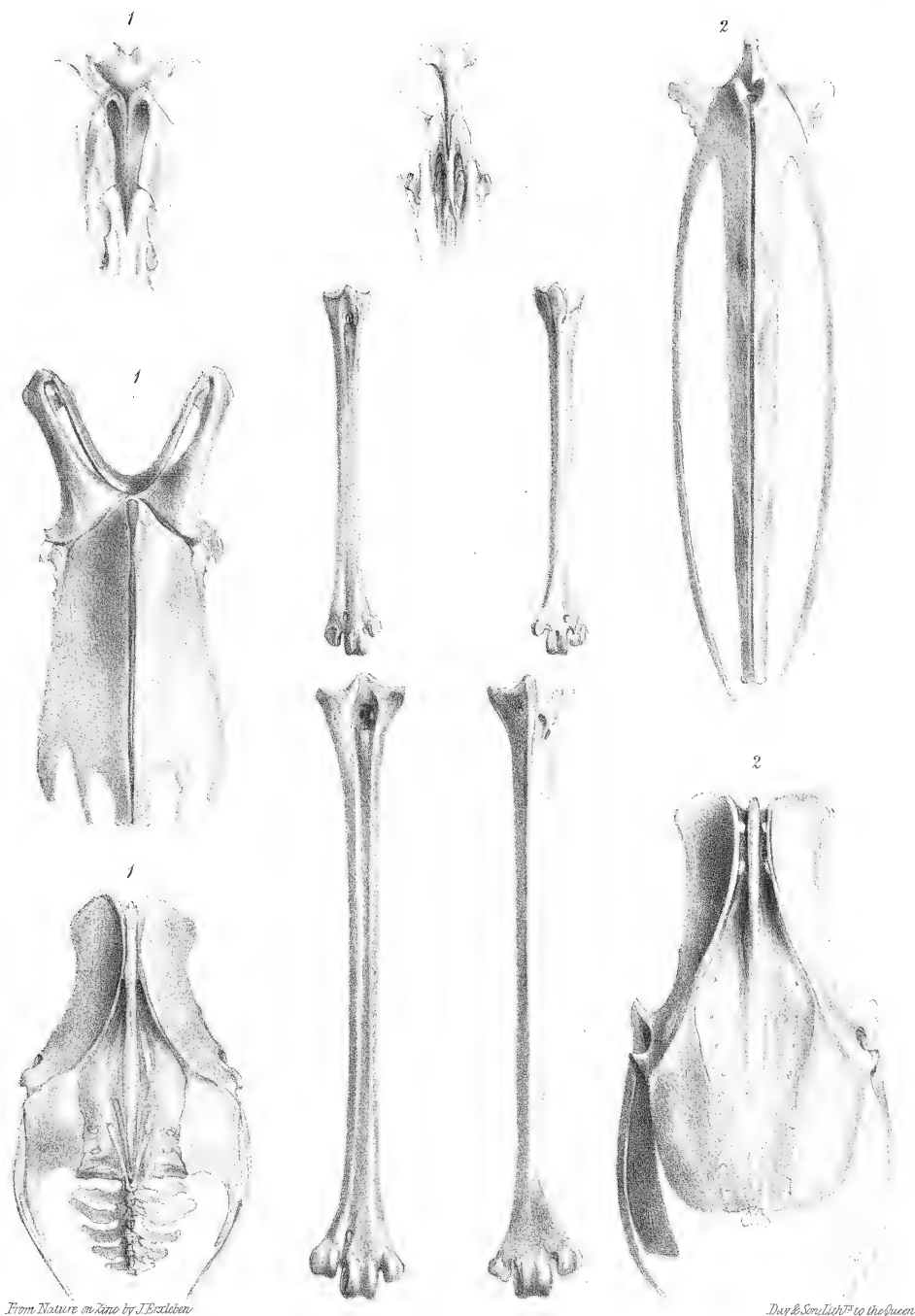
Struthio Camelus.



From Nature on Zinc by J. Exley.

Day & Son, Lith. to the Queen.

Apterix Australis.



From Nature on Zinc by J. Braden

Drawn by S. J. L. L. to the Queen

1. *Otis Houbara*.
2. *Tinamus Braziliensis*.



$\frac{1}{2}$ nat. size

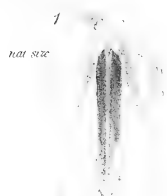


From Nature on line for J. Erskine

$\frac{1}{2}$ nat. size

By S. S. Smith, 1877 to the 1880s

1. *Threskiornis melanocephalus*,
2. *Tantalus ibis*
3. *Aramus scolopaceus*



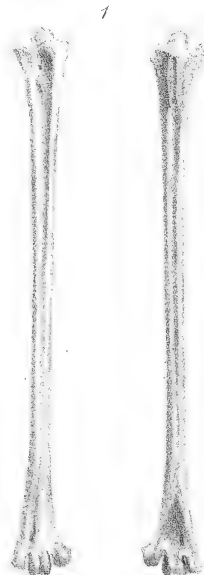
From Nature on Zinc, by J. Encelien

1/2 nat. size

Doyle & Son, Litho^{rs} to the Queen

1. *Cariama cristata*.
2. *Phanicropterus ruber*.

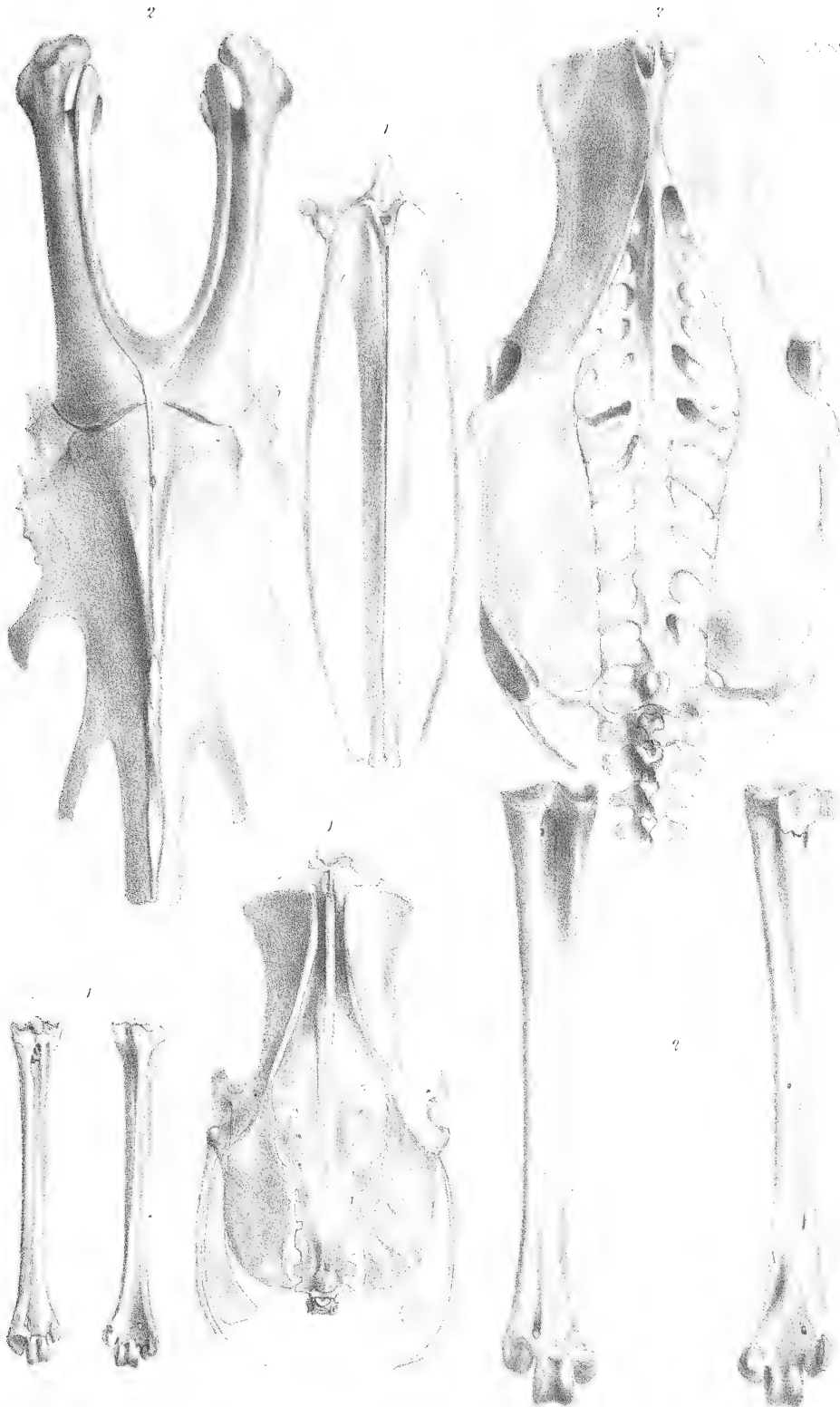




From Nature on Zinc by J. E. Leitch.

Day & Son, Lith^{rs} to the Queen.

1. *Scops Virgo.*
2. *Ciconia alba.*



From Nature on Zinc by F. Fiedler

Dis. & S. A. 11th to the Querc.

1. TINAMUS BRASILIENSIS. 2. CRAX MITU.





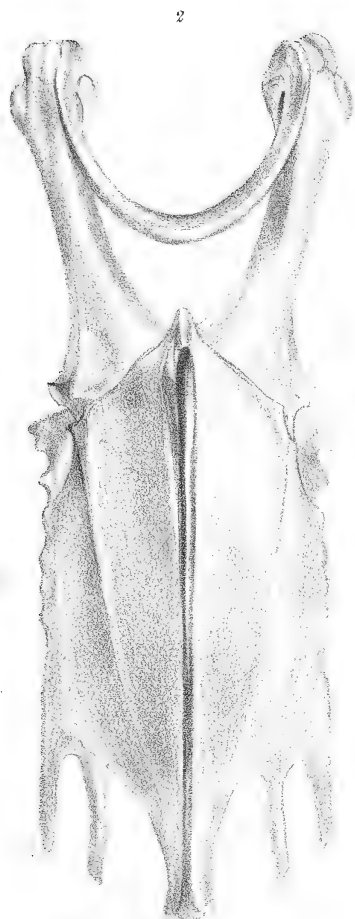
$\frac{1}{2}$ nat. size



2



$\frac{1}{2}$ nat. size



2



2



2

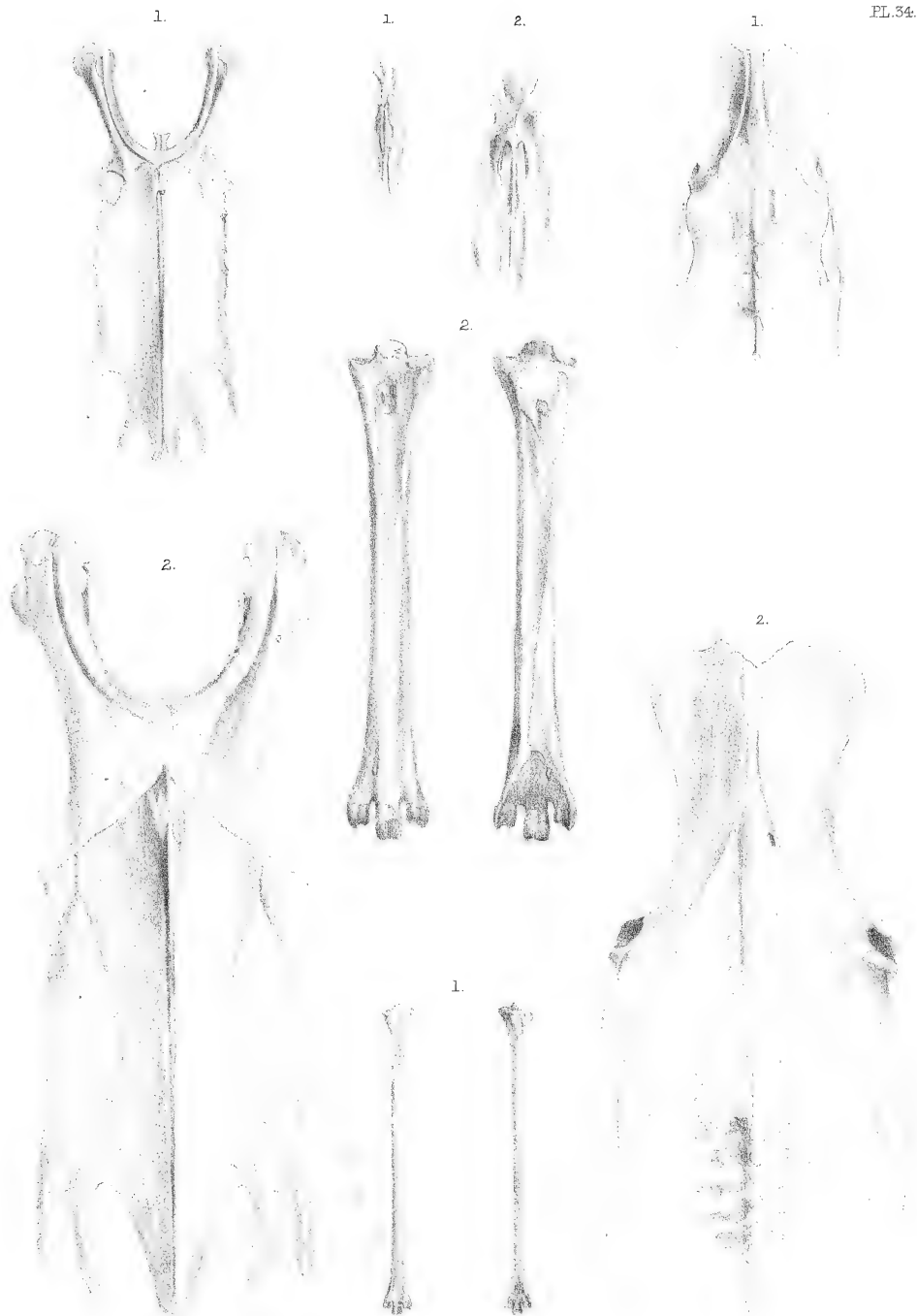


From Nature on. Skc by J. Brachet

Des. & Sculp. Lith^d to the Queen

1. TANTALUS IBIS. 2. THRESKIONIS MELANOCEPHALA.

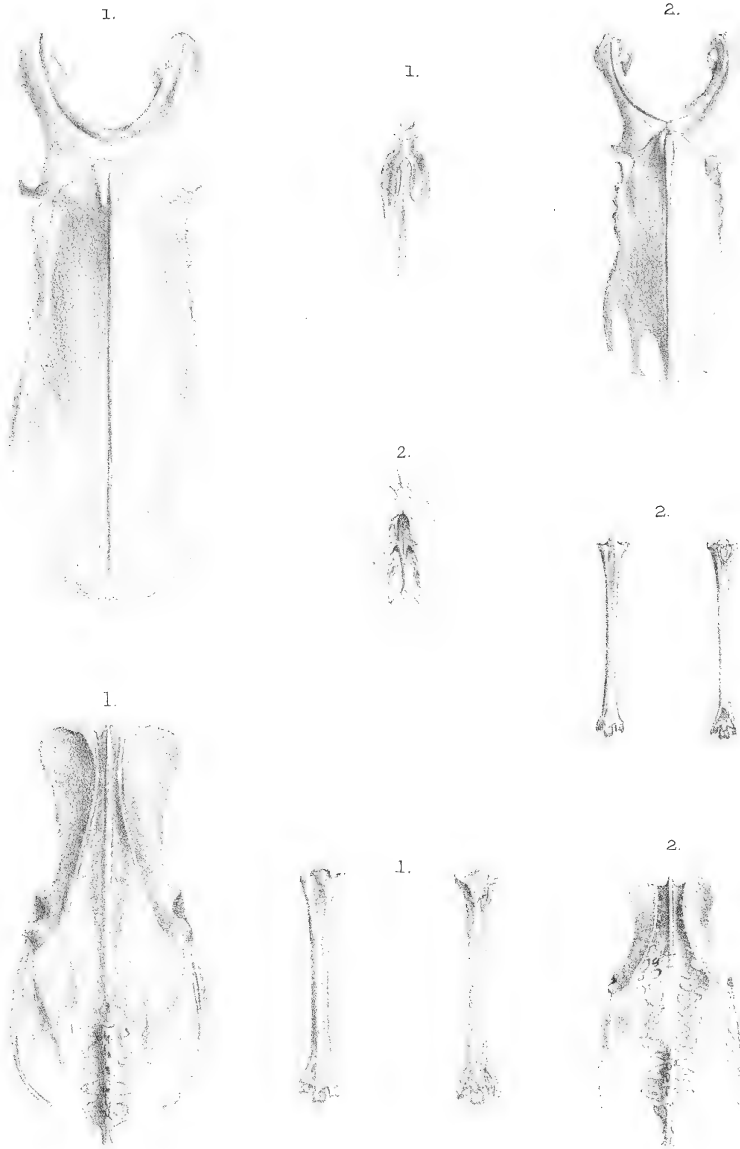


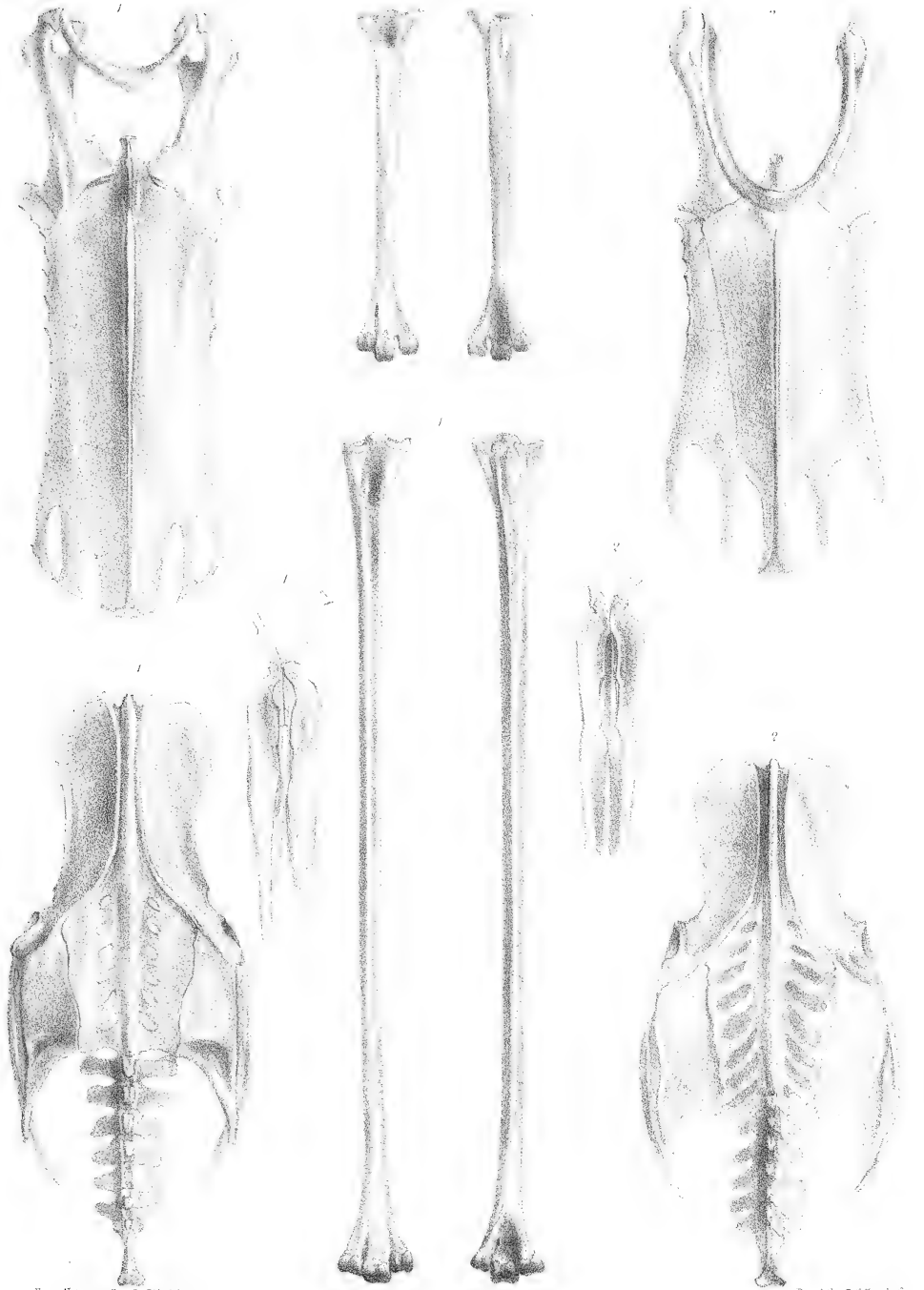


From Nature on Zinc by J. Exclaben.

Day & Son, Lith. to the Queen.

1. TOTANUS, GLOTTIS. 2. HARPIPRION HAGABACH.

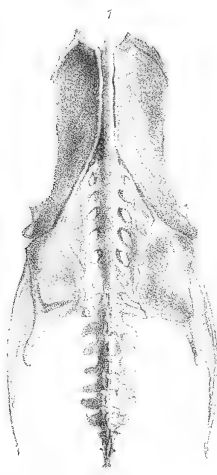
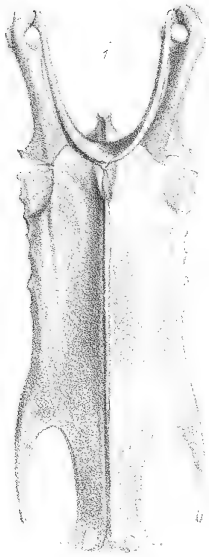




From Nature on Zinc by J. Lisselton

Day & Son, Lith. to the spec.

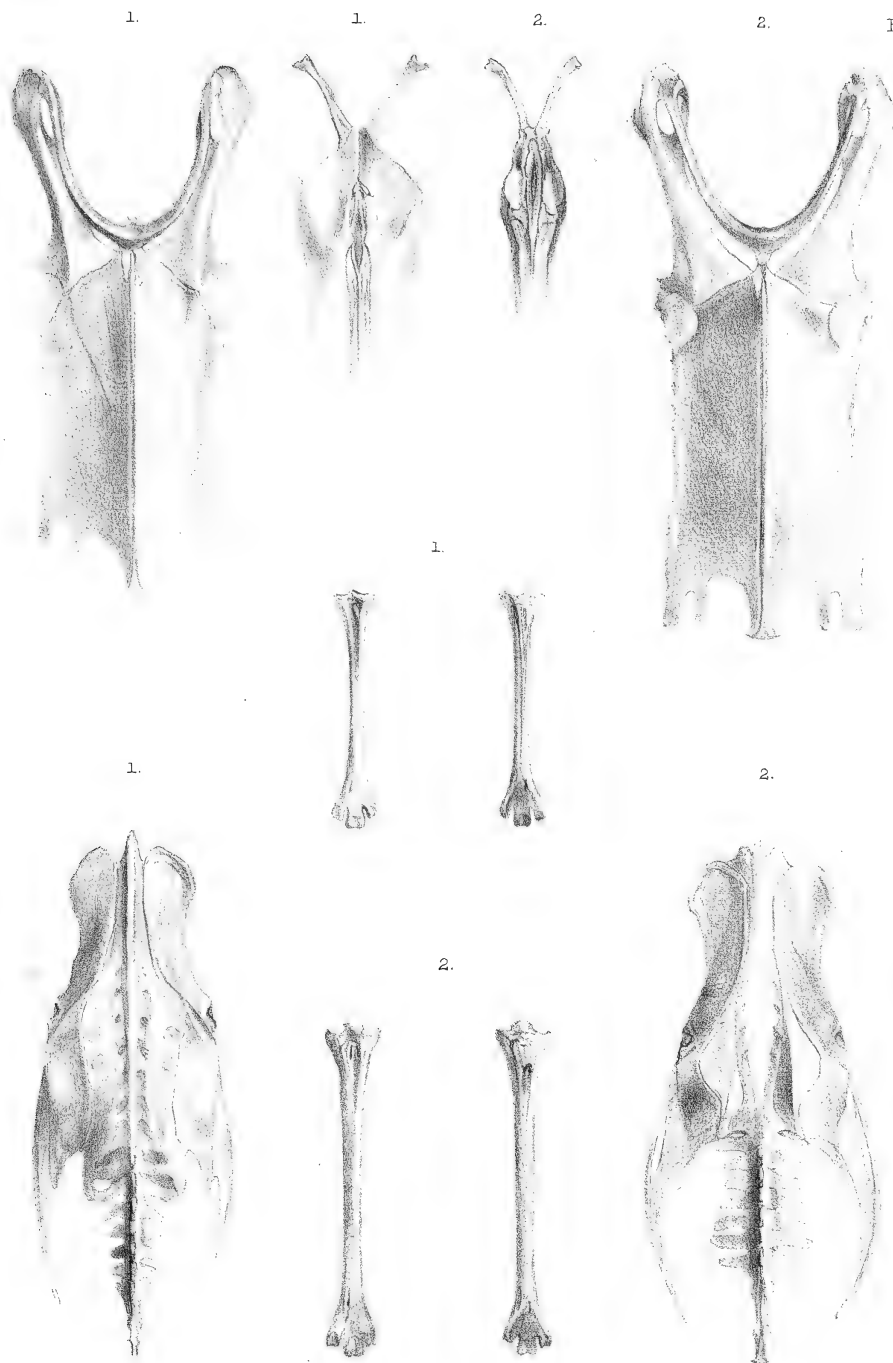
1. CEDICNEMUS LONGIROSTRIS. 2. SCOLOPAX RUSTICOLA.



From Nature on. Line by J. Erskine.

Day & Son, Lith'rs to the Queen.

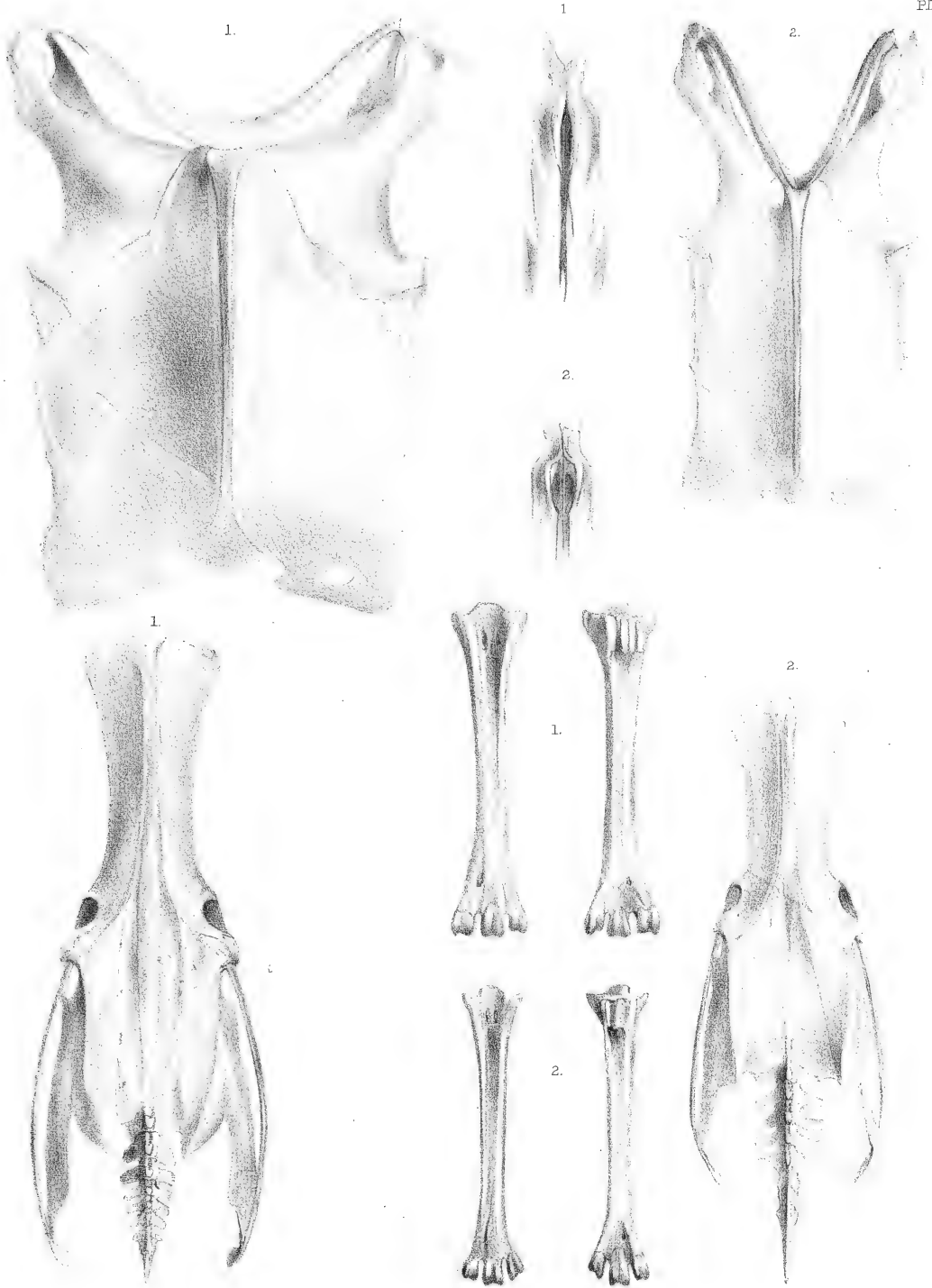
1. LIMOSA RUFÆ. 2. TELIAS PHALAENOIDES.

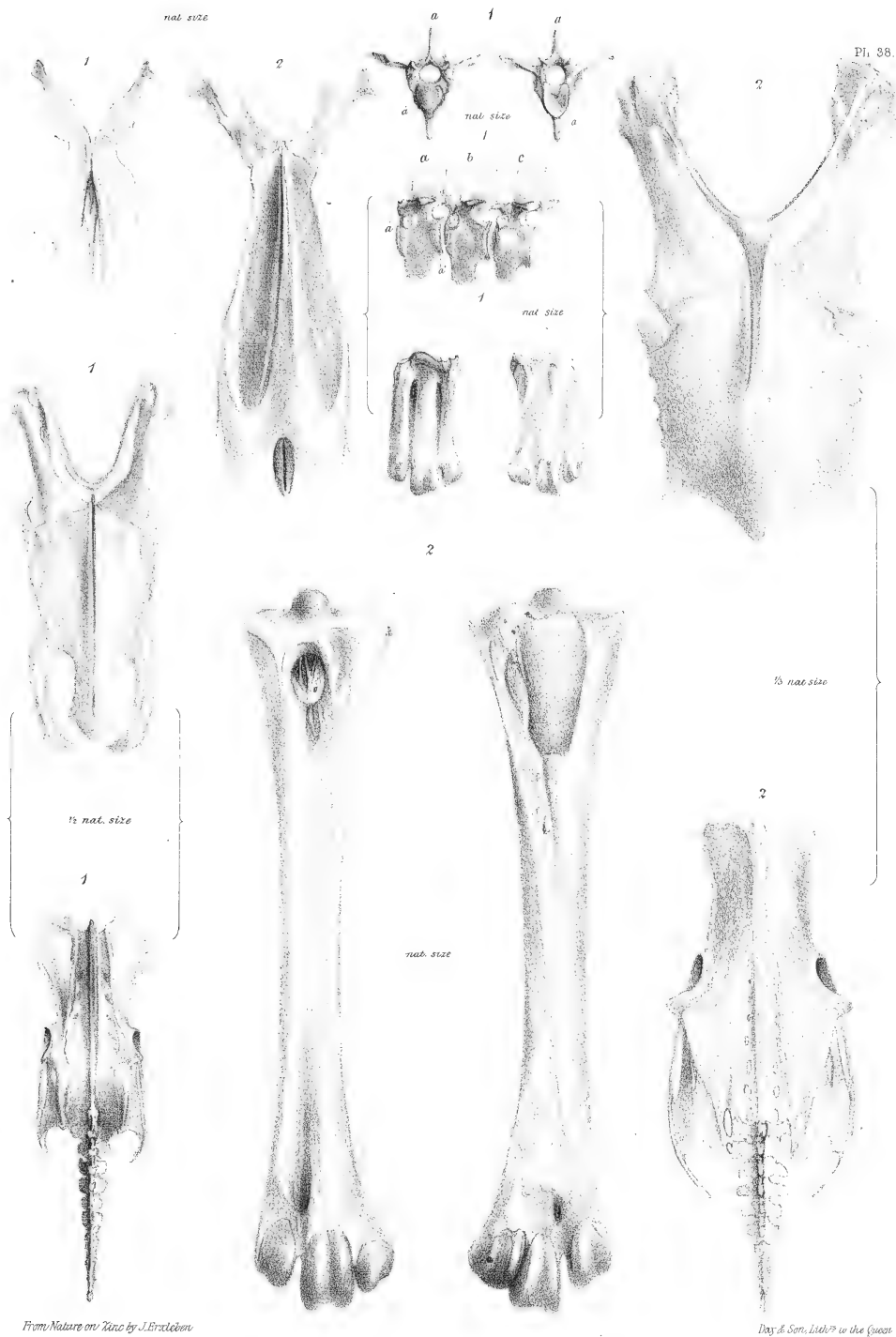


From Nature on Zinc by J. Erskine.

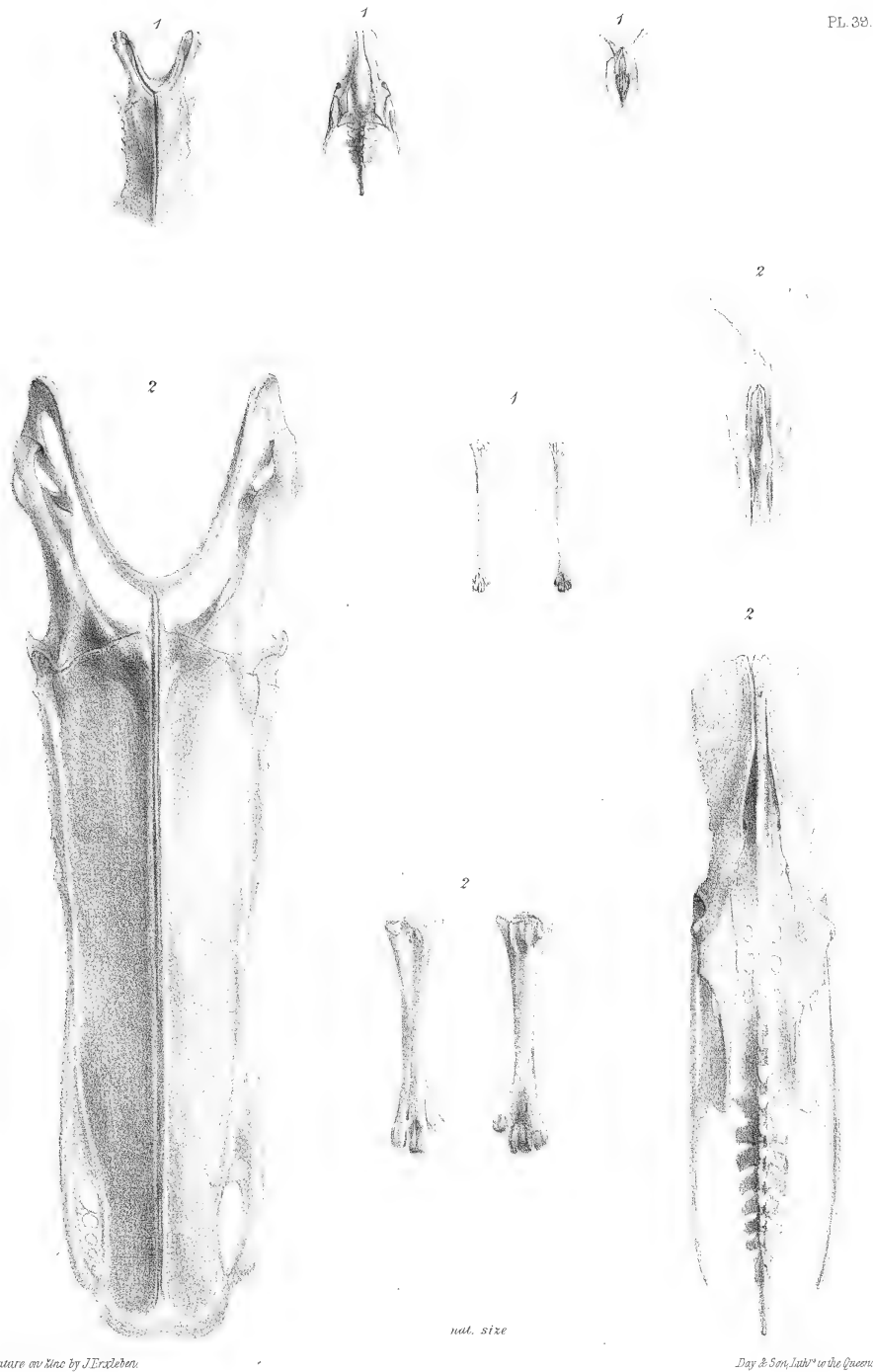
Day & Son, Lith^{rs} to the Queen.

1. RHYNCOPS NIGRA. 2. CHIROICEPHALUS RIDIBUNDUS.





1. EUDYPTES. 2. ONOCROTALUS N.H.



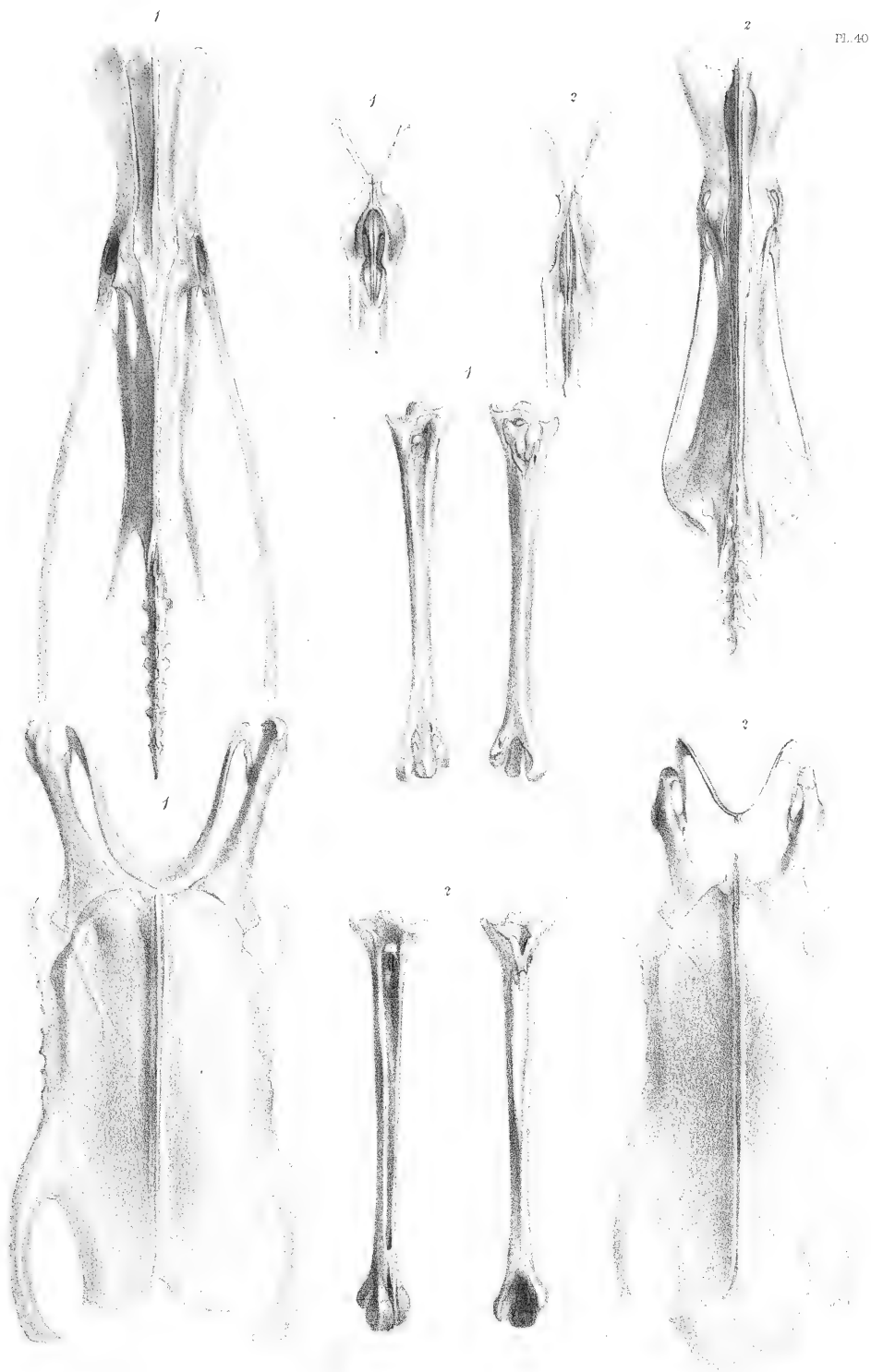
From Nature au Mus. by J. Erxleben.

nat. size

Day & Son, Lithrs to the Queen.

1. THALSSIDROMA. 2. URIA TROILE.

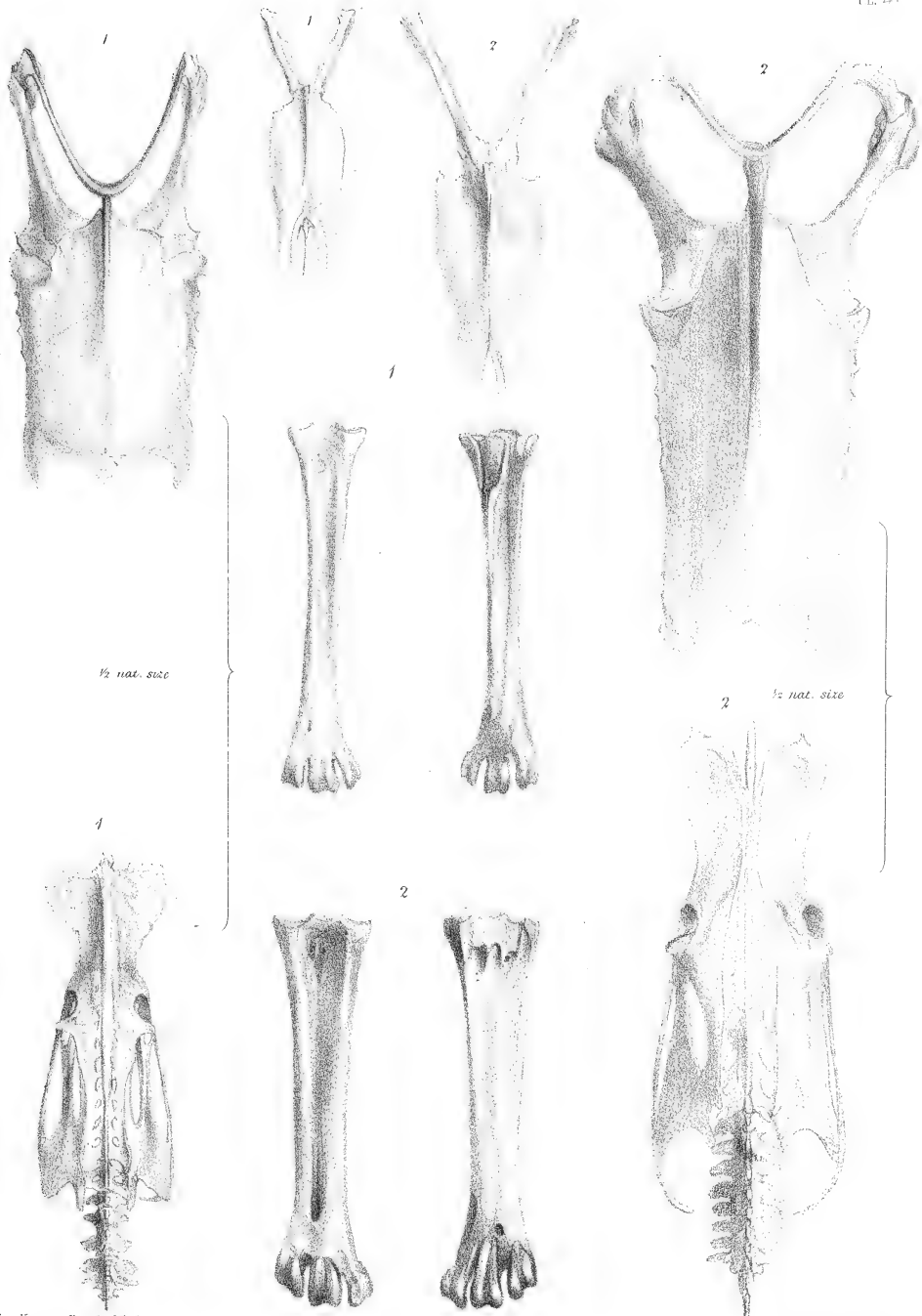




From Nature on line by J. Leakey

Dry & Son, Lith. to the form.

1. PODICEPS CRISTATUS. 2. COLYMBUS SEPTENTRIONALIS.

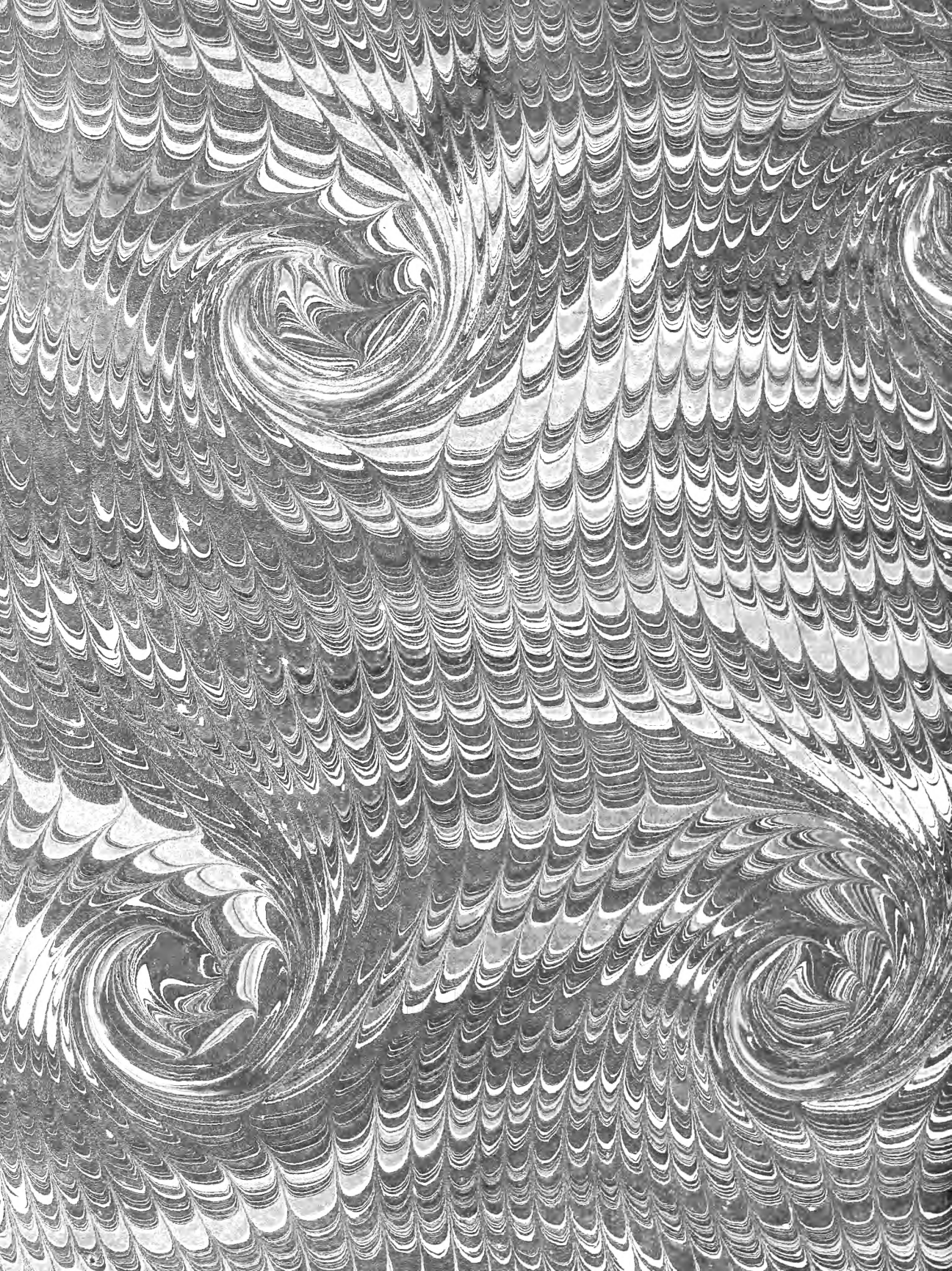


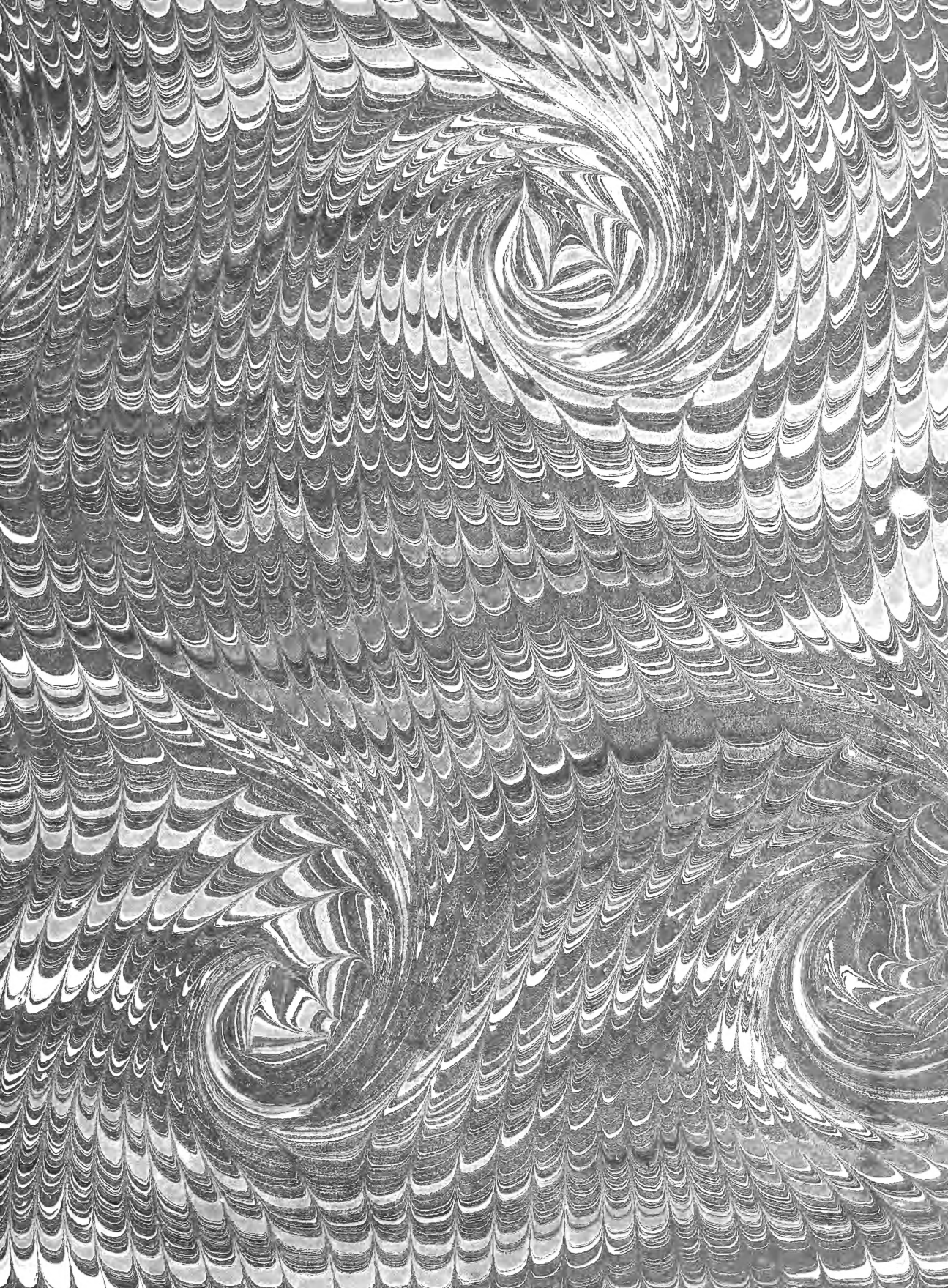
From Nature on Zinc by J. E. H. H. H.

Day & Son Litho to the Queen

GRACULUS CRISTATUS. 2. SULA BASSANA.

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